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United States  
Department of  
Agriculture

Forest Service

Tongass  
National Forest  
R10-MB-138

June 1991



# Alaska Pulp Corporation Long-Term Timber Sale Contract

Kelp Bay Draft Environmental  
Impact Statement

Appendices: Volume II





# **Appendix A**

## **Kelp Bay Project Selection Process**



## **Appendix A-1**

### **Rationale Supporting Selection of Implementation Analysis Areas**



**RATIONALE SUPPORTING SELECTION OF IMPLEMENTATION ANALYSIS AREAS**  
**Alaska Pulp Corp. Contract Planning - 1991-93**

**Purpose:** The purpose of this staffing paper is to capture the thought process and summarize the series of meetings that led to selection and recommendation of Kelp Bay and Southeast Chichagof as the first two project size environmental analysis areas within the APC contract boundary.

This paper is presented in three subsections.

- A. Listing of meetings and conclusions which lead to selection of the environmental analysis areas.
- B. Description of the APC contract area review for available volume.
- C. Results of Chatham Area Management Team meeting in September 1989.

**Section A - Listing of meetings and conclusions.**

Listed below in chronological order is a summary of meetings which led up to the selection of Kelp Bay and Southeast Chichagof as the first in a series of timber sale operating areas.

The first meeting was held in Sitka on August 4th, 1989. The purpose of that meeting was to bring Chatham Area staffs up to date on APC contract modifications. Primary contract modifications that pertain to this topic are:

- (1) APC contract area can be divided into smaller "bite size" areas, for analysis and implementation of the Forest Plan. In contract terms, these are "Operating Areas".
- (2) There is a detailed process provided for in the contract which will require the Forest Service to prepare a mid-market assessment for each operating area, that guarantees the volume "made available" for the "current timber supply" meets a minimum of 60% normal P&R (profit and risk) based on the date of the Notice of Intent (NOI). This process will require additional field reconnaissance to develop credible volume estimates, species mixes etc.
- (3) Annually, the Forest Service, through consultation with APC, shall develop an Operating Schedule. This tentative operating schedule will display the following items: Areas scheduled for operations based on TLMP, acres and estimated volumes proposed for harvest, expected NEPA commencement and completion date for specifying additional operating areas. This schedule shall list sufficient volume and current timber supply to meet four years of operations.
- (4) Forest Service will need to make available a "current timber supply" of at least 240 MMBF starting on January 1, 1991. The current timber supply will gradually increase to a total of at least 360 MMBF by December 31, 1995, and be sustained at that level annually.

On August 29th the ID team leaders, Timber staffs and RO sale administration staff met to discuss a tentative operating schedule. Based on our discussion, the following agreements were reached.

- (1) It is important to understand the difference between contract "Operating Areas" and project level environmental analysis areas.
- (2) It will be up to the Timber staff officers, and the ID Team leaders to define logical operating areas. Consideration should be given to logical transportation networks (LTF-sheds), VCU boundaries, and Management Area Boundaries in TLMP.



On September 6th and 7th, 1989, ID Team members, Gordon Anderson, Janis Burns and Dick Zaborske; planning staff John Sherrod; Timber staffs, Miller Ross and Ned Pence; and Rai Behnert and Tom Sheehy of the Regional Office Planning Program and Budget staff met to discuss several topics to gain clarification for proceeding with the next series of project level environmental analyses for the APC Long-Term Timber Sale Contract. A summary of those topics and agreements reached that are germane to selecting a project area are:

- (1) Size of a project area should be based on the "Purpose and Need" for the project, public scoping, resource issues, reality of manpower available, budgets, etc. (FSH 1909.12 sect 5.21 and 5.3e)
- (2) We are not tied to MAA's in TLMP, the area to be analyzed depends on what we want to do (Purpose and Need) and "other areas available". If one large EIS will do the job and is the most efficient approach, then do it. If it is more appropriate to do the analysis in two or three smaller documents, then that is what should be done. RO feels this should be a Management Team decision.
- (3) Ground verification of proposed units and roads will be critical for the next planning projects. Each unit or road card will be the primary source of site specific information to guide field layout. Ground verification will be especially critical where we are developing unit-specific standards and guidelines, and mitigation measures dealing with wildlife habitat issues, fisheries issues (road crossings) etc. The level of changes experienced in the past for 81-86 or 86-90 and SEIS, would not be acceptable in the future.

The Chatham Area staff and interdisciplinary teams were faced with meshing two processes into one. How to meet the requirements of NEPA and the CEQ regulations, and also meet the modified terms of the APC contract, i.e. minimum operating volume of 240 MMBF annually gradually rising to 360 MMBF, and mid-market analysis. They had a fairly short time to develop a plan which would identify a schedule to complete enough environmental analysis documents (EISs) to satisfy annual APC operations contract wide.

#### **Section B - Review of the APC contract area and available volume.**

In order to combine these aspects of project level planning, a working group consisting of Janis Burns, IDT leader, Jim Russell, Chatham Area Silviculturist, and Dick Zaborske, logging systems specialist conducted a review of each VCU within the APC contract. This analysis was based on inventory computer runs and Allowable Sale Quantity (ASQ) calculations from TLMP. Analysis was accomplished using a Data General spreadsheet. Worksheets supporting the analysis and conclusions are set aside in the Kelp Bay planning record.

The direction given to the working group at the beginning of this task was to accomplish the following:

- (1) Need to evaluate by Analysis Area (from Phase I SEIS) the total available volume within the contract boundary. Between 1991 and 1996 need to look at potential harvest of 600 MMBF.
- (2) Need to identify a tentative operating schedule which addresses volume to be offered from both Stikine and Chatham Areas.
- (3) Prepare a schedule of NEPA analysis areas which shows how the Chatham and Stikine Areas will meet the tentative operating schedule from 1991 through 1996. This schedule must provide a minimum of 240 MMBF "current timber supply" from January 1, 1991 through December 31, 1995. After that date the schedule must show at least 360 MMBF.

Following the September 7th meeting, the working group divided the Chatham Area into logical "small bites" for inclusion into Implementation Analysis areas for scheduling into a tentative Operating Schedule. The process and assumptions used to develop the estimated acres and volumes for environmental analysis during the 1990-1996 period follow:



- (1) ADG spreadsheet was prepared which showed by VCU the following items: total net land acres, total commercial forest land (CFL) acres, normal operable CFL acres, Non-standard operable CFL acres, inoperable CFL acres, extreme hazard soil acres (slopes > 75%), Retention acres and the Net Scheduled acres to meet the Allowable Sale Quantity in TLMP.
- (2) For each VCU, acres of clearcut less than 40 years old were subtracted from the TLMP net scheduled acres. This amount represented the acres remaining to be harvested through the rest of the rotation. (1990-2060) A percentage of harvest was also figured.
- (3) Volumes were estimated based on section 7c4e (mid market assessment) of the "modified" APC contract. That is 13M/acre for Volume Class 4, and a weighted average of volume classes 5-7, or approximately 27M/ac.
- (4) Using information on TLMP RAM runs based on phone conversations with Ron Dippold and Bill Wilson, R10-RO Timber substaff a series of calculations were done to estimate acres which would be available for harvest in the 1991-1996 period.
  - VCUs which had no previous timber harvest, were assumed to be ready for first entry and between 15% - 20% of the net scheduled acres were thought to be available.
  - For VCU's with a partial 1st entry (i.e. 8-18% of operable CFL harvested), the VCU was scheduled to be taken through the second entry or up to 40% of operable CFL acres harvest, if previous harvest was more than 10-15 years old.
  - In VCUs where more than 20% of the net scheduled CFL had been previously harvested, and time since last timber harvest had been 10 or more years, then enough acres were scheduled to complete the second entry under TLMP (up to 40%) of the net scheduled acres were thought to be available.
  - Any VCU with harvest within the past 10 years was not scheduled for entry until after 1996, unless there was a portion of the VCU which had not been entered previously.
  - For any of the VCU's which had planned harvest due to some alternative in the 1986-90 FEIS or the SEIS, the acres scheduled by an EIS were considered representative of the acres available for harvest in the 1990-96 period.
- (5) Using the "Transportation Layer" from the GIS database as the most current inventory for logical transportation opportunities, AA's and VCU's were grouped together into "logical" operating areas (transportation sheds) for NEPA analysis, as shown in Table 1.
- (6) The logical operating areas both inside and outside of proposed wilderness (HR 987) were then built into a tentative operating schedule, FY 1989-1996. With the assumption each planning team would produce one final EIS every other year. (see draft schedule attached)
- (7) Logical operating areas inside areas proposed for wilderness/LUD II designation by Congressional bills were assumed to be unavailable until after 1993 and 1994. Since this schedule would be subject to be updated annually, it was felt that if Tongass legislation were enacted, future annual operating schedules could be amended without disrupting current team time schedules.
- (8) To convert estimated available acres to volume, an average of 21 MMBF/acre was used. This represented a weighted average of volumes in section 7c(4) of the modified APC contract. This review of the APC contract area and estimate of acres and volume available for harvest in the 1990-1996 period was used as a tool to evaluate which VCUs and Analysis Areas from phase I of the SEIS might be logical to schedule first. The findings of the review and a map showing the VCUs considered in HR 987 for either wilderness or special LUD II designation were prepared.

### Section C - Chatham Area Management Team Decisions.

To facilitate reaching a decision on where to have the two interdisciplinary planning teams start work, the findings of the above review were presented at the Chatham Area management team meeting held in Yakutat on September 28-29, 1989. Table 1 shows a summary of the APC contract area review. The map used to show the relationship of areas is on file as part of the Kelp Bay planning record.

**Table A-1: Summary of available volume by VCU in the APC contract boundary (9/89)**

Analysis Area LTF shed	VCUs in Analysis Area VCUs	Available 1991-1996 MMBF
<b>AA 1 - LISIANSKI</b>		
Lisianski	188, 250, 252, 253, 256, 257, 258, 260	25.8
<b>AA 2 - MUD BAY-NEKA</b>		
Saltwater	222	12.0
<b>AA 3 - FRESHWATER</b>		
Freshwater	Scattered 211, 216, 219	30.2
<b>AA 4 - UPPER TENAKEE INLET</b>		
Crab Bay	230, 231, 232, 233, 234	86.7
<b>AA 5 - HOONAH SOUND</b> (Proposed Wilderness see below)		
<b>AA 6 - LOWER TENAKEE INLET-SITKOH BAY</b>		
Sitkoh	240, 241, 242, 243, 244, 245	61.5
<b>AA 7 - RODMAN BAY</b>		
Saook Bay, Appleton	293, 294	71.7
Rodman-Duffield	291, 292, 293	<u>42.9</u>
	subtotal	114.6
<b>AA 8 - SITKA</b>		
Sergius-Fish	287, 288, 289, 290	97.4
Kruzof	303, 306, 308, 309	44.1
Nakwasina	300	37.7
Kalinin	304, 305	7.7
Neva	302	<u>28.4</u>
	subtotal	215.3
<b>AA 9 - EAST BARANOF</b>		
Catherine Island	296, 297	54.8
Kelp Bay	298, 314, 315	<u>56.9</u>
	subtotal	111.3
<b>AA 10 - SILVER BAY</b>		
Silver Bay	319, 320, 321, 322, 323, 324	46.9
<b>TOTAL AVAILABLE OUTSIDE HR 987 AREAS</b>		<b>704.7</b>

**Table A-1: Summary of available volume by VCU in the APC contract boundary (9/89)**

<b>Analysis Area LTF shed</b>	<b>VCUs in Analysis Area VCUs</b>	<b>Available 1991-1996 MMBF</b>
<b>PROPOSED WILDERNESS AREAS</b>		
<b>AA 1 - LISIANSKI</b>	189	9.3
<b>AA 2 - MUD BAY - NEKA</b>	191, 192, 193, 194, 195 196, 197	141.7
<b>AA 4 - TENAKEE INLET</b>	224, 225, 226, 227	64.5
<b>AA 5 - WEST HOONAH SOUND</b>	279-283, 285, 286	115.7
<b>AA 1/4 - NORTH ARM/ HOONAH SOUND</b>	248, 249, 262, 246, 247	59.7
<b>AA 6 - KADASHAN</b>	235, 237	51.8
<b>Total inside Wilderness Proposal</b>		<b>410.1</b>

Agreements made at that meeting which affected selection of the first environmental analysis areas for the APC contract were:

- (1) It is not logical at this point in time to schedule entry into any of the HR 987 areas, until the outcome of that bill (or others similar) is final.
- (2) Due to the existing limits in budget and personnel (and a lack of faith for either to substantially increase) it was felt that for the next five years each EIS should attempt to provide approximately 100 MMBF for the annual operating schedule. If the Stikine Area completed two EISs on Kuiu Island in the next five years the Chatham Area would have to produce one EIS each year to meet estimated 'current timber supply' of 360 MMBF by January of 1996. (see draft ACP tentative Operating Schedule Summary)
- (3) The Chatham Area Management Team decided the first logical area was a combination of the East Baranof and South Peril Strait areas into a single EIS for approximately 100 MMBF. It is noted this is an estimated volume, and not a "target". The ID team will be responsible for developing an adequate range of alternatives. This assignment was given to the Sitka Ranger District planning team.
- (4) The East Baranof/Peril Strait area was identified in the 1985-86 Amendment to TLMP as scheduled for harvest in the 1990-1995 period. Historically, the Kelp Bay, and Catherine Island area was scheduled for harvest in 1981-86 EIS. Due to low volumes per acre and poor market conditions this area was not harvested, and was dropped in the 1986-90 EIS. With currently higher markets, it is thought this area, if combined with other adjacent areas, might meet the mid market assessment. It was also felt the Kelp Bay/South Peril Straits area has had limited previous entries, making them



"not wilderness" and in terms of political controversy it might be "easier" to schedule entry there, rather than attempting to schedule harvest into an area which has not had previous road construction or harvest.

- (5) A lengthy discussion of how subsistence users might be affected ensued. Outcome of the Hanlon v Barton case was discussed. Overall it was felt that subsistence users in communities such as Hoonah, and Sitka would be more sensitive to additional timber harvest close to home, i.e. "Not in my back yard." It was felt the farther away future harvest was scheduled from either of these communities, the greater the chance of avoiding subsistence conflicts. Angoon, although only about 15 miles from Kelp Bay, was thought to obtain most of its subsistence on Admiralty Island, which was designated by ANILCA as a National Monument and is permanently protected from development activities.
- (6) The Chatham Area Management Team decided the second logical area would consist of a combination of Crab Bay and False Island transportation shed areas, plus possible other additions to comprise a single EIS of approximately 100 MMBF. Again this is an estimate volume and not a mandated "target." This assignment was given to the Supervisor's Office Timber planning team.
- (7) Third logical area is Kruzof Island for Fiscal Year 1993. Kruzof Island is considered a highly critical area in which to develop public consensus for management of this area adjacent to Sitka. It was felt more time would be needed to develop trust and working relationship with the Sitka publics than is currently available for either FY 1991 or 1992 projects.

Fourth and fifth logical areas were tentatively assigned as a combination of Analysis Area 8 and Analysis Area 10, for Fiscal Year 1994. For 1995 some combination from Chicagof Island would be considered.

The only firm assignments were for fiscal years 1991 and 1992. Scheduling of additional project level environmental analysis areas for fiscal years 1993 and on into the future would need to be adjusted on a yearly basis pending enactment of Tongass legislation. Listed below is a synopsis of Chatham Management Team Meeting in Yakutat, discussion as it relates to evaluating potential "political/public controversy" risk and scheduling priorities of one analysis area over another

**Analysis Area 1:** This area includes the Lisianaski and those VCUs located in close proximity to the community of Pelican. Several of these VCUs were included in legislation and proposed as a wilderness addition or as a roadless area adjoining the West Chichagof - Yakobi wilderness area. The remaining VCUs would have very low volume potential with high costs due to multiple log transfer facilities initial construction and high water transportation costs. This area was negotiated out of 1981-86 and 1986-90 FEIS due to high public concern. Area 1 has a recommended low priority for scheduled harvest.

**Analysis Area 2:** This area is composed of one lone VCU, VCU 222, with transportation access to the Salt Lake Log Transfer Facilities. There is low volume available because this VCU has been harvested in the 1981-86 and 1986-90 operating periods. This area may have a lower risk for appeal than some other areas. However due to volume availability this area is ranked low for a volume scheduling priority.

**Analysis Area 3:** Included in this area are three VCU's which were not entered for the SEIS project. VCU 211 was deferred from harvest in the 1986-90 plan. VCUs 216 & 219 had roads and timber harvest planned in 1976-81, 1981-86 and 1986-90 operating periods; much of this has yet to be implemented due to litigation. Chatham Area Management team viewed these as high risk for appeal due to close proximity to the community of Tenakee Springs. This analysis area has a low priority for immediate scheduling.

**Analysis Area 4:** The Upper Tenakee Inlet- Crab Bay Analysis Area has sufficient volume to warrant further EIS work. The risk of this area to be appealed is somewhat lower than areas 1, 3, 5, & 10, as it sits across and East from Tenakee Springs. Limited harvest activity have occurred in the past. Due to risk assessment, this area has a moderate scheduling priority.

**Analysis Area 5:** Hoonah Sound - This area is included in legislation proposals before the Congress, and is rated low priority for scheduling until the enactment of legislation determines whether or not to include all or portions of it as a wilderness addition.

**Analysis Area 6:** Lower Tenakee Inlet and Sitkoh Bay has sufficient volume to justify its consideration as a potential high priority area with a low risk for appeal. This area was cut extensively in the late 1960s and early 70s. and is ready for a scheduled 2nd entry,

**Analysis Area 7:** This area needs to be broken into two considerations. VCU's 291, and 292 were heavily entered in the 1960s and still needs some time to recover. These VCU's have a low priority for scheduling. VCU's around Saook and Appleton were lightly entered and would be ready for another harvest. They are far enough away from Sitka, and Angoon that subsistence resource conflicts would be lower than those areas closer to Hoonah or Sitka. This area has a high scheduling priority.

**Analysis Area 8:** North of Sitka and adjoining VCUs and islands - Areas rated as a high risk for appeals. Kruzoff Island, Nakwasina Sound, Katlian Bay were heavily logged in the early to mid 1960s and are in need of further rest until entered again. Low to medium priority for scheduling next harvest.

**Analysis Area 9:** East Baranof and Kelp Bay Area - This area was considered a low risk of appeal from Sitka, with moderate risk of appeal from the community of Angoon. Harvest first occurred in the early 1970s with removal of approximately 6-10% of CFL harvested. Area was deferred per January 4, 1985 agreement between FS and APC (low economics). With higher timber markets, it would be appropriate to schedule this area for additional harvest. There is ample volume to justify a high scheduling priority.

**Analysis Area 10:** Silver Bay - Back door to Sitka with a high risk for a public outcry and appeal. Low amounts of volume available and potential perceived dangers to wildlife. Much of this area was not scheduled by either TLMP or Amendment to TLMP for timber harvest. This area has a low scheduling priority.



**Appendix A-2**  
**1991 Tentative Operating Schedule**







United States  
Department of  
Agriculture

Forest  
Service

Region 10  
Tongass National Forest

Chatham Area  
204 Siginaka Way  
Sitka, Alaska 99835  
(907) 747-6671

Reply To: 2450

Date: March 28, 1991

Mr. Kenneth J. Hammons  
Chief Logging Engineer  
Alaska Pulp Corporation  
4600 Sawmill Creek Road  
Sitka, AK 99835-9801

Re: APC Contract # 12-11-010-1545, Section B0.61

Dear Ken:

The Tentative Operating Schedule (dated March 20, 1991) that I transmitted to you with my March 22, 1991, letter contained inappropriate wording that is misleading concerning the Forest Service position on the enjoined SEIS volume.

The Forest Service reasonably expects that all of the currently enjoined SEIS volume will be available for harvest. This is reflected by the "Best-case scenario". If current efforts in court to prevail in the Hanlon/Tenakee vs. Franzel suit and end the current injunction do not succeed or take longer than projected to achieve, then we may need to revise the tentative schedule.

Enclosed is a corrected Tentative Operating Schedule.

Sincerely,

GARY A. MORRISON  
Forest Supervisor

Enclosure

cc:  
RO/TM  
SO/TM

910328 0850 TM 2450 JW



## 1991 TENTATIVE OPERATING SCHEDULE

(REVISED)

March 28, 1991

CHATHAM AREA

The APC Long Term Sale Contract (2/27/91 revision) Section B0.61 requires the Forest Service after consulting with purchaser to determine, for each existing and proposed Operating Area, the projected annual rate of harvest, if a three-year supply of timber is available, and the projected volume needed to provide a three-year supply of available timber. A tentative operating schedule is to be developed which will list the current timber supply and schedule NEPA process for sufficient additional timber for three years of operations.

The 2/27/91 revision of the contract included utility logs as a part of the contract volume, and reduced the planning time for the Tentative Operating Schedule from four years to three years.

All volumes listed are net sawlog plus utility.

## A. PROJECTED ANNUAL RATE OF HARVEST:

<u>Camp</u>	<u>Projected Annual Harvest</u>
Whitestone:	40 MMBF (55 MM in 91; 45 MM in 92)
Blackwell:	20 MMBF
Buhler:	20 MMBF (25 MM in 91)
Rowan Bay:	40 MMBF
5th Operator:	<u>20 MMBF</u> (Startup with 15 MM in 92)

TOTAL PROJECTED ANNUAL HARVEST: 140 MMBF

Note: APC proposed a projected annual harvest of 160 MMBF. The actual harvest during calendar year 1990 was 140 MMBF (net sawlog & utility). The remaining volume on the contract can be cut out by the end of 2010 with an average annual harvest of 125 MMBF, leaving the remaining 6 months (Jan-June of 2011) for final cleanup and closing.

## B. CURRENT TIMBER SUPPLY FOR OPERATING AREAS:

There is uncertainty concerning the resolution of the current court injunction of a portion of the SEIS volume. Thus three scenarios are presented to show impacts of different possible results of the court action. A "Worst-case Scenario" assumes that none of the enjoined volume is released, that the access to Humpback and Gallagher will not be available, and that appeals will delay the availability of both Kelp Bay and SE Chichagof for one year after their RODs are signed. A "Best-case Scenario" assumes that all enjoined SEIS volume becomes available in time for operations in 1991, and that Kelp Bay and SE Chichagof are each available for operations on their currently planned ROD dates. A "Mid-range scenario" assumes some enjoined volume will be available and that there will be no appeals delays to Kelp Bay or SE Chichagof.

1. WORST-CASE SCENARIO:

Operator	Operating Area	Available Volume	1991 Vol	1992 Vol	1993 Vol	Carry Over
Whitestone:	Area 2:	1	1	-	-	0
	Area 1:	2	2	-	-	0
	Kelp Bay (avail 93)	38	-	-	10	28
	Total harvest/year:		3	0	10	
	Volume shortage/yr:		<52>	<45>	<30>	
Blackwell:	Area 3:	34	20	14	-	0
	Kelp Bay (avail 93)	25			10	15
	Total harvest/year:		20	14	10	
	Volume shortage/yr:		-	<6>	<10>	
Buhler:	Area 4:	19	19	-	-	0
	Area 5:	26	6	20	0	
	Total harvest/year:		25	20	0	
	Volume shortage/yr:		-	-	<20>	
5th Side:	Kelp Bay (avail 93)	64	-	-	10	54
	Total harvest/year:		-	0	10	
	Volume shortage/yr:		-	<15>	<10>	
TOTAL APC LTS HARVEST/YEAR (Chatham Area):			48	34	30	
VOLUME SHORTAGE TO HAVE 3 YEARS-OPERATION/CAMP:			<52>	<66>	<70>	
TOTAL 3-YEAR VOLUME SHORTAGE = <188> MMBF						

## 2. BEST-CASE SCENARIO:

Operator	Operating Area	Available Volume	1991 Vol	1992 Vol	1993 Vol	Carry Over
Whitestone:	Area 2:	99	45	25	20	9
	Area 1:	75	10	20	20	25
	Total harvest/year:		55	45	40	
Blackwell:	Area 3:	50	20	20	10	0
	Kelp Bay (avail 92)	63	-	-	10	53
	Total harvest/year:		20	20	20	
Buhler:	Area 4:	57	25	20	12	0
	Area 5:	28			3	25
	Total harvest/year:		25	20	20	
5th Side:	Kelp Bay (avail 92)	64	-	15	20	29
	Total harvest/year:			15	20	
TOTAL APC LTS HARVEST/YEAR (Chatham Area):			100	100	100	
Additional Planning Volume:						
	SE Chichagof (avail 93)	127	-	-	-	127
TOTAL APC LTS HARVEST/YEAR (SE Chichagof):			127			
TOTAL CARRY-OVER VOLUME:						268

### 3. MID-RANGE SCENARIO:

Operator	Operating Area	Available Volume	1991 Vol	1992 Vol	1993 Vol	Carry Over
Whitestone:	Area 2:	31	20	11	-	0
	Area 1:	57	35	22	-	0
	Kelp Bay (avail 92)	38	-	12	20	6
	SECH (available 93)	64	-	-	20	44
	Total harvest/year:		55	45	40	
Blackwell:	Area 3:	50	20	20	10	0
	Kelp Bay (avail 92)	25	-	-	10	15
	Total harvest/year:		20	20	20	
Buhler:	Area 4:	50	25	15	10	0
	Area 5:	28		5	10	13
	SECH (available 93)	63	-	-	-	63
	Total harvest/year:		25	20	20	
5th Side:	Kelp Bay (avail 92)	64	-	15	20	29
	Total harvest/year:		-	15	20	
TOTAL APC LTS HARVEST/YEAR (Chatham Area):			100	100	100	
TOTAL CARRY-OVER VOLUME:						170

### C. FUTURE PLANNING VOLUME:

Area	Planned volume	Planning start date	Year Available
Ushk Bay	89	January, 1992	1994
Chicken/Neka	127	July, 1992	1995

The Forest Service reasonably expects that all of the currently enjoined SEIS volume will be available for harvest. The "Best-case scenario" reflects this expectation. It provides a current timber supply sufficient for at least three years of operations as defined by contract section B0.61. It also provides for available volume totaling at least 240 MMBF/year as defined in contract section B0.65.

**Appendix A-3**

**Changes to the Alaska Pulp Corporation Contract  
due to the  
Tongass Timber Reform Act**





**Appendix A-3**  
**Changes to the Alaska Pulp Corporation Contract due to**  
**the Tongass Timber Reform Act**

The purpose of this document is to inform the public of changes in the The Alaska Pulp Corporation (APC) contract necessary to implement certain provisions of the Tongass Timber Reform Act (TTRA), P.L. 101-626, which was signed into law by President Bush on November 28, 1990. This appendix summarizes the information presented to the public in the ROD addendum for the Supplemental 1981-86 and 1986-90 EIS, and the letter sent to Secretary of Agriculture Clayton Yeuter.

The provisions of the Act which affect APC contract operations are the buffer zones required for "Class I" and certain "Class II" streams by Section 103 of the statute, in which commercial timber harvest is prohibited, and the modifications to the APC contract in Section 301(c) of the Act. All aspects of the Act have been incorporated into the planning phases for the Kelp Bay DEIS, to the maximum extent practicable. Implementation of the Tongass Timber Reform Act did not result in changes in the purpose and need for the proposed action as put forth in the Notice of Intent published in the Federal Register on March 1, 1990.

**Section 103 streamside buffer zone changes:**

The Act requires maintenance of a riparian habitat buffer zone of at least one hundred feet in width on each side of all Class I streams and Class II streams which flow directly into a Class I stream, within which harvesting commercial timber is prohibited. Streams to which the minimum buffer zones do not apply are to be protected through use of Best Management Practices, as defined in the Region 10 Soil and Water Conservation Handbook (FSH 2509.22).

**Section 301(c) contract modifications:**

Section 301(c) of the TTRA enumerates nine modifications of the APC contract and the other long-term contract for sale of Tongass National Forest timber held by Alaska Pulp Corporation. The revised contract texts to implement these modifications were transmitted by the Secretary of Agriculture to the Congress in a February 26, 1991 letter (see attachment 1). Accordingly, Section 301(d) of the Act requires the Forest Service to conduct APC contract operations in accordance with the modified contracts beginning February 27, 1991. The effects of these modifications upon authorized operations remaining as of February 27, 1991 are as follows:

**Section 301(c)(1): Assure that all timber sale planning, management requirements, and environmental assessment procedures regarding the APC contract are consistent with procedures for independent national forest timber sales.**

This modification as implemented by the Secretary in the revised APC contract does not apply to any contract operations that occurred prior to February 27, 1991, including the environmental assessment and other timber sale planning and implementation procedures that preceded and followed issuance of the ROD for the Supplemental EIS (revised contract, Section B0.62, B0.65). Accordingly, no change is required in those operations.

Revisions have been made in the text of the long-term contracts to assure consistency with independent national forest timber sale contracts regarding planning, management requirements, and environmental assessment procedures under NFMA, NEPA and other laws applicable to national forest timber sales on the Tongass. Timber harvest opportunities are now made available within numerous individual Offering Areas, similar to the independent timber contract Sale Area. Management requirements and other procedures that would be reflected in independent timber sales under the 2400-6 form A, B, and C timber sale contract provisions, applicable to the Alaska Region, have been incorporated into the revised text of the long-term contracts using an A, B, and C contract provisions format.

Consistency with independent timber sale planning and environmental assessment procedures reflected in law, regulation, and Forest Service directives system guidance such as that in the Forest Service Handbook is expressly required by Section B6.0 in each modified contract. Contract provisions that may be interpreted to be inconsistent with these procedures have been deleted or modified to assure consistency. Contract volume provisions such as those in Section 7 of the prior APC contract have been modified to the extent necessary to assure consistency with independent sale planning procedures. These provisions include a goal of providing at least a 3-year supply of timber ahead of current contract harvest and meeting manufacturing facility needs. Such provisions are consistent with goals for National Forest short-term contract timber sale programs and Section 301(d)(3) of the Act.

**Section 301(c)(2): eliminate the practice of harvesting a disproportionate amount of old-growth timber by limiting the volume harvested over the rotation in Volume Classes 6 and 7, as defined in the Tongass Land Management Plan ( TLMP) and supporting documents, so that the proportion of volume harvested in these classes within a contiguous management area does not exceed the proportion of volume currently represented by these classes within the management area.**

Section B0.64 has been added to the APC long-term contract to assure proportional harvest of Volume Class 6 and 7 timber in TLMP management areas available to APC for harvest through the year 2011. This provision also assures that the opportunity to maintain proportional harvest over the remainder of the TLMP timber rotation period remains at the expiration the APC long-term contract.

Section B0.64 limits the proportion of Volume Class 6 and 7 acres specified for commercial timber harvest to be no greater than the existing ratio of Volume Class 6 and 7 acres to the total commercial forest acres in the management area timber base. The modified contract text assures that Volume Class 6 and 7 timber remaining in the timber base of each management area at the expiration of the APC long-term contract will represent at least as great a proportion of all remaining timber volume in the management area timber base as it currently represents. Any change in the TLMP schedule which might follow from this contract modification will be incorporated in the ongoing TLMP revision.

**Section 301(c)(3): assure that all timber offered under each contract be substantially harvested within three years or the Secretary shall withhold further offerings pursuant to such contract, unless harvesting has been delayed by third party litigation.**

This process has been incorporated in the TTRA revised contract (Sections B0.61, B0.62, B0.65). The revised contract under this modification imposes a three year limit upon substantially completing harvest of timber offerings or subdivisions thereof designated by the Forest Service (Section B6.36 and "A" divisions of the revised contract). "Substantially completed" is defined to mean at least 75 percent of the estimated volume within the offering or designated subdivision be cut and removed from the offering area. This interpretation is consistent with independent sale requirements for obtaining an extension of time to complete harvest.



The three-year limit is defined to encompass three normal operating seasons from the date the timber is released. The date of release is the date the timber harvest units in the offering or designated subdivision are made available for harvest by the Forest Service, but no later than the time specified for expected completion of roads accessing the units.

The modified text provides for adjustment of the running three-year time limit for delays caused by third party litigation, or other factors consistent with procedures used in independent timber sales. Section B9.4 has been added and other revisions incorporated in the APC contract to assure Forest Service authority to suspend all other operations under the long-term contract as necessary to assure that harvest operations in each designated offering area are totally completed within a specified term that is consistent with independent contract termination dates.

**Section 301(c)(4): assure that the Secretary determines the location and size of sale units and the timing of timber harvests.**

Forest Service determination of the location and size of timber sale units and the timing of timber harvest is assured through control of planning and designation of timber for harvest under B0.6 in the modified contract. Related procedures and authority for suspension of operations and action for breach (in the event of purchaser actions contrary to Forest Service specifications), are found in provisions B9.3 and B9.4.

The timing of timber harvest will be determined by the Forest Service, consistent with independent sales, through approval of operating plans and enforcement of dates specified in the revised contract for completing harvest in each Offering Area (Sections B8.0 and "A" divisions).

**Section 301(c)(5): allow rejection of timber offered under the long-term contracts.**

The contract text has been revised in Section B0.63 to provide the contract holder the right to reject long-term contract timber offerings. As indicated by the language of Section 301(c)(5), the contract does not limit the reason for rejections. This right extends to each offering as a whole, not to portions of each offering. This is necessary to allow practical reoffering of rejected timber as an independent sale within the 12 months specified in the statute for resold timber to count against remaining long-term contract volume. This also serves to prevent the contract holder from "picking and choosing" only the higher quality or lower costs units within an offering to harvest. The contract holder is given 30 days from the date of the offering to reject the offering as a whole.

The modified contracts provide for Forest Service discretionary resale of the rejected offering as an independent timber sale. The long-term contract holder who rejected the offering will not be allowed to bid on the reoffered timber. If the rejected offering is sold within the 12-month period, the volume of the offering, including utility log volume, is subtracted from the remaining long-term contract volume. Resold volume is also counted toward any remaining long-term contract volume. The Forest Service will replace rejected timber that is not resold in a timely manner with a modified or different offering, if necessary to meet contract timber supply obligations.

**Section 301(c)(6): assure that utility logs offered under the long-term contracts shall be counted against contract volume requirements.**

The text of the long-term contracts has been revised in Section B0.3 to assure utility log volume will be counted against contract volume requirements in the APC long-term contract. Counting will commence with volume scaled after February 26, 1991. No upward adjustment of contract volume requirements will be made to compensate for counting utility volume. The language of the statute does not provide for such adjustment. The Forest Service will continue to seek to supply sufficient timber to the holders of both long-term contracts to meet mill supply needs and contract volume requirements.

The revised contract retained all existing contract volume requirements that apply to the post-1986-90 period, except for changing a provision that could be interpreted to maintain a three year timber supply to particular operating areas into a provision for a three year total timber supply (B0.62). The current specific volume requirement remaining in effect under the revised contract for the transition period after December 31, 1990 to December 31, 1995 is for the Forest Service to maintain a current timber supply from the contract equal to at least 240 MMBF of timber remaining to be harvested ahead of current harvest each calendar year (B0.65). APC's harvest rate for the past two calendar years averages about 120 MMBF per year, including utility. To complete harvest of total remaining contract volume by the end of the APC contract term in 2011, sufficient timber must be available to allow an average harvest rate of 120 MMBF per year, including utility. This is a total of 600 MMBF for the 1990-95 period.

Under the revised contract, the Forest Service must by December 31, 1995 maintain at least a 360 MMBF current timber supply, or a three year supply of timber at projected annual rates in current offering areas. Consistent with independent timber sale program targets, the Forest Service more generally must continue to seek to provide sufficient timber supply for three years of operation and to meet the needs of APC mills (B0.62, B0.65). Utility logs do not contribute to any of APC's Wrangell mill needs.

The total log consumption from all sources, including utility volume, of APC's mills from January 1, 1986 through December 31, 1990 was approximately 920 million board feet, or an annual average of 184 million board feet. During this time period 44 percent of the annual log supply was from sources other than the long-term contract. The availability of logs from other sources, especially Native Corporation lands, is anticipated to decrease in the near future because many of those lands have been harvested in the past 10 years. Consequently, it is projected that in the future APC will need to increase the volume from the long-term contract from 103 MMBF annually to 120 to 150 MMBF annually to meet mill needs. In order to maintain a three-year supply to meet mill needs, and respond to fluctuating markets, the demand from the long-term contract is project to range from 360 to 450 MMBF.

Approximately 390 MMBF of timber, including estimated utility log volume, remains to be harvested and scaled under the Supplemental EIS ROD and made available under the contract to meet 1990-95 contract volume requirements. The portion of this volume currently under court injunction, including estimated utility, is about 275 MMBF, and will not be available until the injunction is lifted.

Latest projections for completing EIS documents for additional APC contract timber offerings to meet these requirements indicate that no such timber will be available to meet contract requirements or APC mill supply needs until at least early 1992. Various public comments have already indicated objections to proposed harvest in each of the areas covered by these EIS documents in the process of preparation, so completion of the NEPA process for authorizing these offerings by early 1992 is not in any way assured. Prior to completion of the NEPA process, it cannot be presumed that any timber will be made available from these areas at all. Accordingly, even if the current injunction is dissolved, all timber remaining to be harvested under the ROD, including utility volume, will remain necessary to assure that APC contract volume requirements and mill supply needs for the foreseeable future are met.

**Section 301(c)(7): assure that purchaser credits are provided under the contracts in a manner consistent with independent national forest sale procedures.**

No change in the APC contract was warranted by this modification. Section B4.2 assures consistency with independent timber sale purchaser credit provisions. It remains consistent with independent sale provisions to treat all specified road construction earning, and use of purchaser credit under each long-term contract, as a single contract. Revised rate redetermination procedures under Section 301(c)(1) and 301(c)(8) of the Act, reflected in Section B3.3 and elsewhere in the revised contract texts, apply to long-term contract purchaser credit use and transfer consistent with independent sales. Contract provisions assure that any purchaser credits transferred to pay other contract charges or otherwise used, that subsequently are determined to be ineffective, are replaced with cash payments.



**Section 301(c)(8):** assure that the price of timber offered under the long-term contracts shall be adjusted to be comparable with that of independent national forest timber sales, with stumpage rates and profitability criteria comparable to those of independent purchasers in competitive sales.

The revised text of the long-term contracts includes a rate adjustment procedure in Section B3.2 to be applied to the tentative rates arrived at under the standard residual value appraisal method. The adjustment procedure is based upon the value of timber actually harvested under the independent timber sale program on the Tongass offered under competitive bid procedures on a quarterly basis.

When the independent sale volume harvested during a rolling four quarters is less than 50 percent of the independent sale volume harvested for the total of the preceding 20 calendar quarters divided by 5, or 25 million board feet, whichever is less, or there is less than 2 individual sales having harvested volume, no comparable price adjustment shall be made. These qualifiers were added to assure the value of independent volume being harvested adequately represented these competitive sales. The adjustment factor thus derived can only be a positive or zero adjustment to the tentative rate. The contract procedure does not provide for a negative adjustment to the tentative rate. The Forest Service is prohibited by 16 USC 472a from selling timber for less than its appraised value, and the Section 310(c)(8) provisions focuses upon adjustments to account for bidding on independent sales above the appraised value.

The adjustment procedure is included in the APC long-term contract offering to assure continued comparability, integrated with other stumpage rate determination provisions. The adjustment procedure takes into account potential differences between the long-term offering and short-term sale timber quality, the species of timber, logging costs, or other factor relevant to standard appraisal methods. The profit and risk margins employed for long-term contract appraisals and rate redeterminations are comparable to independent sale appraisal margins. The rates being paid for timber under this modification for the quarter ending March 31.

**Section 301(c)(9):** assure that timber offered under the contracts meets economic criteria consistent with those for independent national forest timber sales.

The revised text of the APC long-term contract deletes the mid-market assessment clause, and instead in Section B0.6 requires consistency with independent timber sale planning procedures that incorporate economic criteria currently found principally in FSH 2409.19 Timber Sale Preparation Handbook, Sections 22 and 31, and Alaska Region Supplements. Criteria applied to each long-term contract will thus be subject to change to maintain consistency with any future changes in criteria applied to Tongass independent sales. Current Forest Service criteria applied to Tongass independent sales include a 'mid-market' assessment to be applied in the timber sale planning process. This planning procedure is consistent with National policy and is expected to continue to be applied to long-term contract offerings as well. However, the long-term contract holders have no guarantee that this planning process procedure will continue for future offerings should it be dropped or modified in the handbook procedures. Likewise, there is no guarantee in the modified contracts that long-term offerings must meet any 'mid-market' or other economic viability test. Section 301(c)(5) of the Act allows the long-term contract holders to reject a timber offering which they do not believe is economically viable.

This modification addresses criteria distinct from the rate criteria of concern in Section 301(c)(8) of the Act, which determine the price actually paid for timber once it is designated for harvest. Section 301(c)(9) consistency is assured by applying the same economic criteria to all timber sale offerings on the Tongass, as a part of the Forest Service planning procedures described in Section 301(c)(1).



# **Appendix B**

## **Public Involvement Activities**



## PUBLIC INVOLVEMENT ACTIVITIES

<u>DATE</u>	<u>ACTIVITIES</u>
March 1, 1990	Notice of Intent in Federal Register.
March 1, 1990	Mailed Scoping Document to 439 concerned persons, organizations, corporations, and State and Federal Agencies.
April 16, 1990	Joint meeting in Angoon with the Alaska Native Brotherhood/Sisterhood.
June 1990	Radio interview on KIFW.
June 19-25, 1990	Joint project investigations with U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) at the proposed LTF sites.
June 26, 1990	Mailed 425 copies of the Kelp Bay Information Bulletin to concerned persons, organizations, corporations, and State and Federal agencies.
July 12, 1990	Meeting with the Admiralty National Monument Committee in Angoon.
July 13, 1990	Meeting with the Alaska Department of Fish and Game, Southeast Native Subsistence Commission, Tlingit and Haida, and Sealaska Corporation.
November 9, 1990	Meeting held in Angoon discussing proposed alternatives and displaying geographic information maps of those alternatives in the Kelp Bay Project Area.
December 13, 1990	Meeting with the Alaska Department of Fish and Game about road management.
December 26, 1990	Radio interview on KCAW, Raven Radio, FM.





# **Appendix C**

## **Design Criteria**



## KELP BAY PROJECT AREA DESIGN CRITERIA

It was recognized by the Interdisciplinary Team (IDT) that some of the criteria were conflicting in nature and that not all criteria could be applied to each and every potential unit, road corridor, or log transfer site. Where resource conflicts occurred, the IDT made their best attempt to meet the design criteria and apply mitigation measures to limit impacts to the natural resources. In all cases, impacts to the natural resources are analyzed and displayed for the Regional Forester (decision maker) to use in making his decision. The references cited are in brackets ([ ]) and are included at the end of this appendix.

Listed below are the design criteria, or guidelines used for designing, selecting, and implementing timber harvest units, roads, and log transfer facilities (LTF). Typically, a timber harvest unit consists of one or more landing locations and logging system settings. Criteria for unit, setting, and landing design is discussed in Section 1 of this appendix. Related to location and selection of timber harvest units is road and log transfer facility (LTF) location, which is discussed in Sections 2 and 3, respectively.

### Section 1: TIMBER HARVEST UNITS

Timber Harvest Unit: A geographical unit designed and analyzed for timber harvest. Such a unit may result from a combination of logging system settings, combined in such a way to meet management objectives identified from land management planning processes. [7]

#### Objectives:

- 1 To manage suitable productive forest land in the Project Area. [2]
- 2 To have timber harvest units that meet design criteria and be physically feasible to implement. [4]
- 3 To ensure that timber harvest unit design will secure favorable conditions of water flow, maintain waterquality and soil productivity, protect residual stands, and minimize soil erosion and sedimentation. [9]
- 4 To ensure that, to the extent possible, size and location of harvest units protect natural resource values for recreation, scenic areas (visual resource), and wildlife. [2]

#### A. How much harvest is allowable within a given time frame?

1. According to the Tongass Land Management Plan, as amended, approximately 55 percent of the total commercial forest land in the eight VCUs which comprise the Kelp Bay Project Area were scheduled as part of the allowable sale quantity. This amounts to approximately 32,500 acres being suitable and available to schedule for harvest in a 100-year rotation. [2]
2. Within a Visual Management Class 1 area, the Tongass Land Management Plan schedules 10 percent of the suitable acreage for harvest every 20 years (200 year extended rotation) per VCU for Land Use Designation III areas. [3]
3. Within a Visual Management Class 1 area, the Tongass Land Management Plan schedules 20 percent of the suitable acreage for harvest every 25 years (120 year extended rotation) per VCU for Land Use Designation IV areas. [3]
4. Within Visual Management Class 2, TLMP schedules 20 percent of the suitable acreage for harvest every 25 years (125 year rotation) per VCU in Land Use Designation III. [3]
5. Within Visual Management Class 2, TLMP schedules 25 percent of the suitable acreage for harvest every 25 years (100 year rotation) per VCU in Land Use Designation IV. [3]

6. Within Visual Management Class 3, TLMP schedules 25 percent of the suitable acreage for harvest every 25 years (100 years rotation) per VCU in Land use Designation III. [3].
7. Within Visual Management Class 3, TLMP schedules 33 percent of the suitable acreage for harvest every 33 years (100 year rotation) per VCU in Land Use Designation IV. [3]
8. Within Visual Management Class 4 areas, TLMP schedules 33 percent of the suitable acreage for harvest every 33 years (100 year rotation) per VCU in either Land Use Designation III or IV. [3]
9. Design harvest units to maintain approximately 30 percent of the operable commercial forest land in a LUD III and approximately 13 percent of the operable commercial forest land in a LUD IV to provide important habitat for wildlife and fish. [2]

B. What size is appropriate for harvest units?

1. Harvest unit size will be governed by land management objectives, topographic features, and natural resource constraints. [2]
2. Maximum size of openings will be 100 acres, except when larger units will produce a more desirable contribution of benefits. Recent timber sale plans have had an average unit size of approximately 50 acres per unit. [1]
3. Units in Visual Management Class 1 should not exceed a single setting (10-15 acres) in apparent size. [6]
4. Units in Visual Management Class 2 should avoid exceeding 15 to 40 acres in apparent size. [6]
5. Units in Visual Management Class 3 should avoid exceeding 40 to 60 acres in apparent size. [6]
6. Units in Visual Management Class 4 should avoid exceeding 100 acres. [6]

C. When will a harvested unit no longer be considered an opening?

1. From a silvicultural point of view, created openings will be considered adequately stocked when desirable tree species average 5 feet in height, and will no longer be considered an opening. This means adjacent stands would be considered available for harvest when the trees within the opening reach this height. [1]
2. In areas where Visual Quality is a primary concern (Visual Management Classes 1 and 2), a created opening will no longer be considered an opening when the average height inside the created opening is approximately equal to one half the height of the adjacent stand, and provides crown closure ranging between 50 and 70 percent. Depending on site productivity, this may mean trees in the created opening would need to be 35 to 50 feet tall before adjacent stands could be scheduled for harvest. [14]

D. What resource considerations are there for proposing unit locations?

**TIMBER**

1. Priority for harvest will be based on stands with decadent growth rate, high defect, windthrow hazard, and insect or disease problems. [1]
2. Minimize risk of windthrow in adjacent stands. [13]
3. Avoid leaving islands of timber which cannot be economically harvested in future operations, unless justified for other resource objectives. [1]
4. Avoid leaving areas where future operations would destroy regeneration established in previous entries. [1]
5. Avoid designing timber harvest units within the beach fringe to promote needed deer winter range habitat. [3]

**WILDLIFE**

6. Limit designing timber harvest units within estuary buffer areas to promote habitat diversity for deer, eagles, cavity nesters, and subsistence users. [3]
7. Avoid designing units in inland wetland habitats to promote habitat diversity for beavers, furbearers, and waterfowl. [3]



8. Avoid designing units in retention prescription areas which will be identified for areas of essential habitat for wildlife and fish species. [3]

#### RECREATION/VISUALS

9. Provide recreation opportunities where feasible and compatible with other resource objectives. [3]
10. Avoid timber harvest activities in areas that will adversely impact currently used recreation areas. [3]

#### SOILS/WATER/FISH

11. Preferential consideration will be given to riparian-dependent resources where land use conflicts occur. [9]
12. Avoid placing timber harvest units within 100 feet horizontal distance from channel banks of Class I or II streams or within designated riparian areas. [9]
13. Limit harvest in highly sensitive riparian zones to: [9]  
avoid flooding hazards; protect flood plain fish rearing habitat; avoid areas with poor conifer regeneration potential; and maintain riparian habitat important to brown bear, eagle, fur bearers, and other wildlife species.
14. Avoid placing timber sale units on soils map units with more than 39 percent McGilvery soil comprising the area. Require on ground soils review of sale units which are comprised of more than 15 percent McGilvery soil. During field layout, wherever feasible, adjust unit boundaries to exclude from the harvest area McGilvery soils and rock outcrops. [8]
15. Avoid areas where landslides are active or historic. [8]
16. Avoid areas where shallow or inadequately drained soils indicate extreme mass wasting hazards. [8]
17. Avoid forested slopes adjacent to snow avalanche slopes which have the potential for snow avalanche invasion or otherwise plan assisting in forest regeneration. [8]

#### E. What are appropriate silvicultural systems to prescribe for timber harvest units?

1. Even-aged harvest methods will be prescribed for all species, except where uneven-aged management is needed to meet other resource objectives. Even-aged management includes clearcutting, shelterwood and seed tree removal harvest. Uneven-aged management includes individual tree and small group selection. [1]
2. Evaluate non-commercial vegetation competition on alluvial sites, cutover, open canopy, or sparsely-stocked sites with an established ground cover of dense vegetation, such as salmonberry or devils club. On the Chatham Area these are soils map unit symbols 5234a, 5234b, 5264a, 5264b, 5299b, 5308a, 5334a, 5364a, and 5479e. Plant these areas to Sitka Spruce. [8]
3. Minimize soil disturbance on alluvial soils and other susceptible sites to reduce the risk of undesirable non-commercial species occupying the site. [1]
4. Encourage yellow cedar regeneration through planting, seeding, or other cultural practices on sites that naturally support yellow cedar. [1]
5. Preferred harvest methods within a riparian area are individual tree selection and small group selection. [10]
6. Individual tree removal on lowland flats could occur during the winter to provide sanitation and salvage if desired.
7. Use low-impact harvest systems in Visual Management Class 1 and 2 areas where possible. [6]
8. Use partial cut prescriptions in Visual Management Class 1 and 2 areas where possible. [6]
9. Avoid timber salvage from Class I and Class II stream channels and adjacent buffers. Retain pre-harvest woody material in Class III channels. [10]



F. How should unit boundaries be designed?

1. Shape unit boundaries to reduce apparent size and screen bare harvested ground to minimize impact in areas of visual sensitivity. [1]
2. In visually sensitive areas, shape unit boundaries to replicate nearby natural openings and landform shapes where possible. [1]
3. Design unit boundaries so unit blends with topographic features such as ridges, knobs, benches, and swales and is easily identifiable on aerial photos and maps. Where this is not possible, sidelines should cross the contours at right angles, within constraints of other resource objectives. [1]
4. In visually sensitive areas, shape unit boundaries to hide backlines and other edges. [1]
5. Units in deer winter range will be designed, as much as possible, to have the least impact on winter range use. [2]
6. Design unit boundaries to minimize breakage of felled timber, whenever possible. [7]
7. Design a combination of units and roads to meet mid-market assessment. [4]
8. In areas critical to maintaining wildlife habitat, forest fragmentation, travel corridors and hiding cover will be incorporated into unit and road design, to the extent practicable. [2]

G. How should logging system settings be designed?

1. Avoid movement of timber across Class 1 and Class 2 streams, unless full suspension and damage to stream banks and residual vegetation can be prevented. [10]
2. Avoid movement of logs across haul roads. [7]
3. Backlines should be consistent with payload movement standards (e.g., eliminate blind leads, allow for tail tree heights and anchors). [7]
4. Setting must support guylines of sufficient size, type, and arrangement to successfully withstand the breaking strength of the skyline (wire rope). [7]
5. Design settings with guylines of sufficient size, type and arrangement to successfully withstand the tensions generated by the overturning forces at the top of the tower or gantry. All load bearing guylines should have guyline angles less than 45 degrees measured from the horizontal unless an additional guyline is rigged to oppose in the guyline. Guyline analysis should be done for all non-standard settings. [7]
6. Current sales should consider leaving guyline, tailhold, and anchor trees for future harvesting activities. [7]

H. How should landing locations be designed?

1. Number of landing locations per harvest unit should be determined by resource protection and logging needs. [3]
2. Provide adequate room and gradient to safely operate and maintain the yarding equipment. [7]
3. Provide adequate room and arrangement to place logs in a stable position for chasing (unhooking) and decking. [1]
4. Provide adequate room and arrangement for the safe, controlled entry of logs into the landing area. [7]
5. Be safe from falling, sliding, and rolling debris. [7]
6. Have an adequate truck turn-around within a reasonable distance of the landing. [7]
7. Minimize soil erosion and water quality degradation. [9]
8. Choose locations where the least amount of excavation, erosion, side cast and mass soil movement potential exists. [9]

I. What are acceptable logging systems to consider in designing units?

1. Logging system selection will be based on yarding distance, resource needs, and management objectives. [2]

2. Cable harvest systems on less than 20 percent slopes generally require partial suspension of logs to maintain minimum levels of soil disturbance. Assess sale areas which are less than 20 percent slope for resource mitigation needs to determine if adequate deflection would be a requirement for logging feasibility. [10]
3. Loggings systems recognized for use in Region 10 are:
  - a) Highlead: This system is used on a variety of equipment types with differing capabilities (e.g., towers, mobile yarders). This is basically a ground lead system with the following parameters: [7]
 

Normal external yarding distance (EYD)	= 1,000 feet
Maximum EYD	= 1,200 feet
  - b) Grabinsky: This is a running skyline system often used on highlead layouts, using highlead equipment. This system may achieve one end suspension when the ground has sufficient profile to provide deflection. [7]
 

Normal EYD	= 1,000 feet
Maximum EYD	= 1,200 feet
  - c) Flyer: This is a live skyline, gravity carriage return system. Also referred to as "shotgun" or "shotgun flyer." Skyline extensions are common and spans generally exceed yarding distance. Where skyline lengths to anchors are beyond the unit boundary more than 200 feet, and in timber, a slackpulling carriage and standing skyline are required. Yarding distances are fixed by mainline capability. When rigging beyond the haulback capability of the yarder, indicate proposed rigging solution. Partial and full log suspension are possible with this system. [7]
 

Normal External yarding distance	= 1,700 feet uphill
Maximum EYD	= 2,400 feet uphill
Maximum Skyline span	up to 8,000+ feet
  - d) Slackline: This is a live skyline with haulback carriage. This system is commonly proposed in downhill yarding situations that exceed the capability of highlead or when suspension is required. A triple drum tower is needed. Partial and full log suspension are possible with this system. Limited lateral movement is provided by side blocking. When rigging is beyond capability of the haulback, indicate proposed rigging solution. [7]
 

Normal EYD	= 1,600 feet
Maximum EYD	= 2,000 feet
Maximum skyline span	= 2,100 feet
  - e) Running skyline: With adequate deflection to achieve one end suspension, this system and highlead are interchangeable. While full log suspension is possible, it may be difficult to obtain on the ground. For payload analysis, use DG SAP or equivalent. The maximum haulback tension will be limited by either the safe working load of the haulback or the interlock capability of the yarder. Design yarder is WIW 188. The following parameters apply to planning for this system: [7]
 

Normal EYD	= 1,000 feet
Maximum EYD	= 1,600 feet
  - f) Standing skyline: This system is used wherever yarding distances or span distances exceed the capability of live skyline equipment. It is also used where skyline diameters exceed the capabilities of other equipment. In downhill yarding, full log suspension is a system requirement. Design yarder is SKAGIT BU 199. The following parameters apply to planning for this system: [7]
 

Normal EYD	= 1,700 feet
Maximum EYD	= 2,600 feet
Maximum Skyline Span	= Up to 8,000+ feet

- g) Multi-span skyline: Downhill yarding indicates a system need for full log suspension and the need for a high standard field profile. The following parameters apply to planning for this system: [7]

Normal EYD	= 1,600 feet
Maximum EYD	= 5,000 feet
Maximum Span	= 5,000 feet

- h) Shovel: This is a system of short-distance logging. Soils should be moderate to well drained. Slope gradient should be less than 20 percent. Shovel yarding areas are to be located on moderately well drained to well drained soils in valley bottoms. Operations are normally conducted on less than 20 percent slopes. Passes or strips should be kept to a maximum of four. [7]

Normal EYD	= 200 feet
Maximum EYD	= 400 feet

Additional shovel yarding criteria: [8]

- 1) Tree stumps, except for the occasional stump, will remain in place. The vast majority of nutrients available for plant growth are located in the organic duff. We must avoid "pioneering" a road by removing stumps from the path traveled by the shovel yarder as stump removal results in the removal and relocation of the duff and nutrients.
- 2) The shovel yarder operator should execute turns at reduced speeds to minimize exposure of mineral soil. [8]
- 3) The shovel yarder operator should execute wide arc turns to minimize exposure of mineral soil. [8]
- 4) A maximum of four passes on the same ground is recommended. A sinuous logging pattern should be favored as it results in fewer passes over the same ground. [8]
- 5) Skunk cabbage or plant associations having skunk cabbage as an indicator plant species should not be harvested as they indicate poorly drained and low-bearing strength soils. [8]
- 6) The following plant associations are generally suited for shovel yarding. Inclusions of wet areas indicated by the presence of Skunk cabbage should be avoided. [8]

Sitka Spruce Series

Pisi/Alnus (350)  
Pisi/Opho (330)  
Pisi/Vacci-Opho (320)  
Pisi/Vacci (310)  
Pisi/Opho-Rusp (390)  
Pisi/Rusp (380)

- 7) No shovel yarding should take place on other plant associations without review by a soil scientist. It is recognized that due to its low cost, shovel yarding holds the promise of making low-volume marginal areas economically more attractive. As opportunities arise, shovel yarding on an experimental basis may be released by a soil scientist. Many of these plant associations will require the use of natural matting to support the weight of the shovel yarder or in the absence of slash the use of cants moved ahead of the yarder as it walks forward. [8]
- 8) In shovel yarding operations over landscapes with impeded drainage, ensure adequate groundwater drainage through landscape across skid trails. This may require digging out natural drainages and removal of slash and debris from natural drainages after harvest. [8]



- i) Helicopter: Standards for this system are described in the publication "Timber Sale Preparation, Guide For Helicopter Logging," published by Region 6. These standards are used nationally and cover considerations for safety. These standards are extremely detailed and should be closely followed. The design helicopter is also discussed in this publication. [7]
 

Maximum AYD	= 6,600 feet
Maximum EYD	= 7,900 feet
- j) A-Frame: Logging with a float mounted yarder typically rigged in a highlead configuration. Typically used with this system is a cold deck and swing. [7]
 

Normal EYD	= 600 - 800 feet
Maximum EYD	= 1,000 feet

J. What are logical mitigation measures for unit locations when there are conflicting natural resource considerations?

1. Provide wildlife corridors between proposed harvest units and manage them on an extended rotation basis to provide for elevational migration, habitat linkage between patches of old growth and overall habitat diversity. These corridors should contain trees of sufficient size and structure to be windfirm timber and capable of snow interception. [5]
2. Precommercial thin second-growth stands in deer winter range to establish and prolong understory forb and shrub production and encourage early development of large lateral branches for snow interception. [5]
3. In Visual Management Class 1 and 2 areas, burn harvest unit to reduce the adverse effect of color contrast within the first 3 years after unit harvest, where weather permits. [1]
4. Identify and adjust unit boundaries to retain old-growth recreation/subsistence access corridors to alpine, etc. [5]
5. Design unit boundaries to provide open vistas in areas specially identified during timber sale planning. [6]
6. Remove slash from roads and units adjacent to vistas. [6]
7. Strive to leave an average of two snags per acre in clearcuts within each watershed. Snags should be greater than or equal to 15 inches DBH and 10 feet in height if available in the stand. Green trees at least 15 inches that can become snags could be left also. Green trees should be standing culls. Broken top trees are preferred for wind firmness. Snags may be clumped along the back of units, along "v" notches and riparian areas or in unharvested timber. All snags left must fall within the State safety guidelines. This criterion is designed to promote habitat for cavity nesting birds. [5]
8. Consider reshaping or joining existing openings as may be necessary to accomplish visual and other resource quality objectives. [1]
9. Use surface erosion and slope stabilization practices to minimize soil erosion from disturbed surfaces. Erosion/stabilization measures include revegetation, mulching, erosion fabrics, terracing, re-rapping, or surface armoring. [9]
10. Salvage windthrown trees at the earliest possible date to avoid loss of valuable timber, except in riparian areas where fishery biologist or hydrologist review of riparian resource requirements conflicts with windthrow salvage. [13]

## Section 2: ROAD CRITERIA

Logging System Road: For planning purposes, all road classes (arterial, collector, local, and temporary) will be considered the same. A road is the route or potential route that provides access to areas of land needed for management purposes. [11]

Objectives:

1. To have transportation corridors meet design criteria and be physically feasible to implement. [4]
2. To ensure natural resources, social and other disciplines will be considered when locating, designing, and constructing forest roads. [12]
3. To ensure that road corridors minimize soil erosion and sedimentation, maintain water quality and soil productivity and secure favorable conditions of water flow. [8, 9]

A. What are normal design criteria for logging system roads?

1. Minimum curve radius will be 50 feet. [12]
2. Maximum grade for temporary or specified roads is roads is 20 percent. [OSHA]
3. There are no OSHA-specified grade limits for equipment transport roads. These roads must be able to accommodate the intended design vehicle. Grades over 15 percent require snubbing or towing and pushing for track-mounted mobile yarders, loaders, and tower yarders. Equipment roads over 20 percent require specialist (road and logging engineer) consultation. [12]
4. Minimum road width will be 14-foot running surface. [12]
5. Bridges on system roads should pass 50-year flood test; culverts should pass a 25-year flood test. Both should allow for passage of debris. [9]
6. Log stringer bridge span will generally not exceed 60 feet in length, unless adequate stringers are available on site. [12]
7. Locate switchbacks on side slopes less than 35 percent. [8]
8. Locate road intersections on side slopes less than 25 percent. [8]
9. Sideslopes greater than 55 percent should be considered roadable on a case-by-case basis. [8]
10. Sideslopes over 40 percent should be considered for full bench construction on a case by case basis, based on stability evaluation. [8, 9]

B. What resource considerations are there for proposing road?

1. Locate roads to minimize visual impact from key viewing points. [6]
2. Adjust clearing limits and road location as needed to provide viewing points and vistas in designated locations, when public recreation use of the road is anticipated. [6]
3. Use full bench cut and end haul material where slopes are too steep to hold material and/or where residual trees do not provide enough screen to permit road to meet visual quality objectives. [6, 9]
4. Limit ROW clearing to a minimum as cut and fill slopes permit. [6]
5. Locate and design rockpits to minimize visual impacts. Retain screen trees where necessary to meet this objective. [6]
6. Roads in areas with identified recreation values should be designed to protect scenic values where needed. [3]
7. Avoid road locations in beach fringe, riparian zones, inland wetland, or estuary buffer wildlife habitat where possible. [3]
8. Provide for adult and juvenile fish passage at road crossings on fish-bearing streams. Selection of drainage structure will depend on fish-passage requirements (bridge or culvert). [10, 9]
9. Avoid, when possible, designated wetlands and riparian areas as outlined in Executive Orders 11988, 11990, and 11514, FSM 2510 and 2520, and U.S. Army Corps of Engineers regulations (33 CFR 323). [9]
10. Avoid blasting and use of heavy equipment in road pioneering when saturated soil conditions exist on unstable areas. [8]
11. Remove [end haul] extremely fine-textured marine terrace soils (blue clay) from road corridor or avoid these areas when planning construction. [8]
12. Side slopes composed of compact till should be investigated for proper road design (i.e., full bench construction) on a case-by-case basis. [8]
13. Volcanic ash soils require special road construction with end haul. Do not use volcanic ash as a fill material. Do not work or move volcanic ash which is intended to be used as road subgrade. [8]
14. Where roads cross the upper boundary of wetlands adjacent to commercial forest land, ensure adequate drainage of groundwater through the road prism. [8]



15. Road crossings should normally be designed perpendicular to stream courses. [9]
16. Design sidehill cuts and fills to minimize soil displacement, especially adjacent to drainage ways and stream courses. [9]
17. Road ditch relief culverts should be placed to avoid saturating potential slide areas or erodible soils.
18. Road drainage should be discharged into filter strips to minimize sediment delivery to natural stream courses. [9]

C. What are logical mitigation measures to apply to roads and rockpits?

1. Fully rehabilitate rockpit area by grading floor to drain, cleanup, and finish grading of overburden and waste rock, seeding, and planting. [6]
2. Apply grass seed and fertilizer to cut and fill banks and abandoned roads. [6,9]
3. Mitigate the effects of sidecast right-of-way slash in Visual Management Classes 1 and 2 within 30 feet of the road shoulders by the most appropriate of the following methods: [6]
  - endhaul slash to a central approved area, or
  - pile slash in non-impacting areas, consolidate slash as much as practical, cover with soil, and shape to a natural contour.
4. Manage roads to minimize wildlife disturbance. Limit increased pressure from hunting, trapping, off-road-vehicle use, and other impacts to subsistence users, pine marten, and brown bear habitat. [5]
5. Refer to seeding guidelines for mitigation of soil disturbance from roading operations. [8]
6. Pioneering should not precede fill placement by more than 48 hours, especially during high rainfall periods (September 15 - November 31). [8]
7. Arrange road runoff by planning adequate road drainage facilities that route surface flows away from cut and fill slopes and away from naturally unstable slopes. [9]
8. Where high landslide hazards exist, special construction measures will be developed based on the findings of site-specific stability evaluations. [9]

Section 3: LOG TRANSFER FACILITIES

Log Transfer Facility: The end of the road where logs are unloaded from land based transportation and placed into saltwater from a dock or ramp for towing to a mill. [11]

Objectives:

1. To be physically feasible to implement [4]
2. To meet design criteria, appropriate State and Federal stipulations, and Memorandums of Understanding or cooperative agreements. [2]
3. To ensure the minimum potential impact on water quality, aquatic habitat, and other resources. [9,12]

A. What physical and safety features are needed for siting log transfer and rafting facilities in saltwater?

1. Log transfer and log raft storage facilities should be sited in weather-protected waters with bottoms suitable for anchoring and with at least 20 acres for temporary log storage and log booming (guideline S2). [15]
2. Log rafting and storage facilities should be safely accessible to tug boats with log rafts at most tides and on most winter days (guideline S8). [15]
3. Logs, log bundles, or log rafts should be stored in areas where they will not ground at low tide. A minimum depth of 40 feet or deeper measured at Mean Lower Low water (MLLW) for log raft storage is preferred (guideline S9). [15]
4. Minimize the number of log transfer facilities and storage areas by selecting locations that will accommodate future logging without requiring additional transfer or storage sites. [12]
5. Give preference to locating log transfer facilities along straits or channels when feasible. When located in bays, large bays are preferred to small bays, and deep bays preferred to shallow bays. Sites near the mouth of bays are preferred to sites near the head of bays. [5]

6. When an existing log transfer facility in a less-than-optimal location is considered for reconstruction, an interdisciplinary analysis will be performed to determine whether adverse impacts of relocating the facility exceed those resulting from continued use at the existing site. [5]
  7. Site in locations that have foundation materials, determined by appropriate subsurface investigation, that can economically and effectively support the structure through the duration of its design life. [12]
- B. What natural resource features are considered in recommending a site location?
1. Siting of log transfer and log raft storage facilities within 300 feet of the mouths of anadromous fish streams, or in areas known to be important for fish spawning or rearing, is normally prohibited (guideline S1). [15]
  2. Log transfer facilities should be sited along or adjacent to straits and channels or deep bays where currents may be strong enough to disperse sunken or floating wood debris. Siting log transfer facilities in embayments with sills or other natural restrictions to tidal exchange should be avoided (guideline S5). [15]
  3. Sites for in-water storage and/or transfer of logs should be located in areas having the least productive intertidal and subtidal zones (guideline S6). [15]
  4. Log Transfer facilities and log raft storage areas should *not* be sited on or adjacent to extensive tideflats, salt marshes, kelp or eelgrass beds, seaweed harvest areas, or shellfish concentration areas (guideline S7). [15]
  5. Site log transfer facilities to avoid bald eagle nests. No project construction or operation should be closer than 330 feet to any bald eagle nest tree (guideline S10). [15]
  6. Give preference to sites where marine vegetation is sparse or absent over sites with diverse marine vegetation. [5]
  7. Avoid siting log transfer, rafting, and storage facilities in areas with established commercial, subsistence, and sport fishing activity, high levels of recreation use, areas of high scenic quality, or documented concentrations of species commonly pursued by commercial, subsistence, and sport fisherman. [3]
- C. What physical and safety features are needed for siting log transfer and rafting facilities upland from saltwater?
1. Log Transfer facilities generally should be sited in proximity to at least 5 acres of relatively flat uplands. There should also be a body of water sufficient to provide a minimum of 60 linear foot facility face (guideline S3). [15]
  2. To provide safe access to the log transfer facility and adjoining log sort yard, the facility should be sited where access roads to the facility can maintain a grade of 10 percent or less for trucks and 4 percent for specialized equipment (guideline S4). [15]
  3. Sites for upland facilities should be located in areas of the least productive commercial forest land, unless it conflicts with other resource management objectives which outweigh site productivity. [8]

#### REFERENCES CITED

Listed below are a series of documents incorporated as part of the design criteria by reference. Where necessary, portions of these papers, handbooks, or manuals have been summarized to convey to the reader the intent of management during design and implementation of timber units, roads, and log transfer facilities.

1. Alaska Regional Guide. 1983. USDA Forest Service, Alaska Report Number 126, Juneau, Alaska.
2. Tongass Land Management Plan and Final EIS. 1979. USDA Forest Service, Series Number R10-57, Alaska Region, Juneau, Alaska.
3. Tongass Land Management Plan, Winter Amendment. 1985-86. USDA Forest Service, Document Number 147, Alaska Region, Juneau, Alaska.

4. Alaska Pulp Corporation Long-Term Sale Contract. 1956. USDA Forest Service Contract Number 12-11-010-1545, Washington Office, Washington D.C.
5. Draft Forest Wide Direction and Standards and Guidelines, and Management Area Prescriptions for the Tongass National Forest Land and Resource Management Plan Revision. 1989. Working Paper, Draft G.
6. Landscape Management Handbook. 1985. USDA Forest Service, FSH 2309.22.
7. Timber Sale Preparation Handbook. 1986. USDA Forest Service, FSH 2409.24-R10.
8. Soil Management Handbook. 1990. USDA Forest Service, FSH 2509.18.
9. Soil and Water Conservation Handbook. 1990. USDA Forest Service, FSH 2509.22.
10. Aquatic Habitat Management Handbook. 1986. USDA Forest Service, FSH 2609.24.
11. Forest Transportation Terminology Handbook. 1989. USDA Forest Service, FSH 7709.54.
12. Transportation Planning Handbook. 1988. USDA Forest Service, FSH 7709.55.
13. Wind in the Forests of Southeast Alaska and Guides for Reducing Damage, 1989. A.S. Harris, USDA Forest Service, Pacific Northwest Research Station, General Technical Report Number PNW-GTR-244.
14. Effalt Analysis Working Paper, Tongass Land Management Revision. 1988. USDA Forest Service, Juneau, Alaska.
15. Alaska Timber Task Force Construction Guidelines (see in reference No. 5). 1989. USDA TLMP revision, pages FW 108-109.



# **Appendix D**

## **Unit Cards**





## UNIT DESIGN CARD

UNIT # 102 ACRES 33

STATEMENT OF INTENT BY IDT: Unit is in high value estuary fringe habitat and recreation place within 600' of an anchorage. Recreation has visual concerns about the unit also. Split yard away from the V-notch. 1 photo of harvest will be back in 1985.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 429PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/191

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840

LEGEND

- CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit with natural regeneration. Site productivity ranges from low to high with an average site index of 83 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/white-barked pine and western hemlock/white-barked pine. Unit is adjacent to old harvested area. It is possible to regenerate for clearcut. Reduced R. 2/15/91

TIMBER & LOGGING  
SYSTEMS

Resource concerns: Unit designed for clearcut. High yield logging. Buckline may need to be lowered to avoid windthrow. Occasionally fall away from and split yard V-notch in unit.

name: Richard R. Zaborie date: 2/11/91

## ROADS &amp; ACCESS

Resource concerns: no concerns, unit accessed by road 7227.

## name:

FISHERIES &  
HYDROLOGY

Resource concerns: Unit is adjacent to harvest area. Unit is adjacent to old harvested area. In fish concern 088

date: 2/18/91

## name:

## SOILS:

Resource concerns: Sphagnum V-notch in center of unit as noted on photo to protect water quality

date:

name: Richard R. Zaborie

## WILDLIFE:

Resource concerns: Unit lies in the estuary fringe and represents high value edge of brown bear habitat and moderate deer winter range.

date: 2/18/91name: Richard R. ZaborieRECREATION &  
VISUAL:

Resource concerns:

date: 2/18/91

## name:

## CULTURAL:

Resource concerns:

date:

## name:

## Reviewed By:

date: 2/15/91

## title:

James S. Burns & Associates  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 103

ACRES 17

STATEMENT OF INTENT BY IDT: North boundary is 100' from the estuary. Southeast boundary stays up out of U-notch, to avoid high mass movement hazard if the unit is logged, FOS will change from SPUM to Reduced Modified (RM).

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 425PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/491

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleared unit. Predominant plant series is Western Hemlock and should regenerate naturally. Site productivity range from low to moderate with the average site index of 81 (Fair). Predominant plant associations are Western Hemlock/Blackberry and Western Hemlock/Blackberry/shield fern. It is possible to retain a single per acre for diversity.

## TIMBER &amp; LOGGING

## SYSTEMS

highland logging. Keep southeast boundary at slope break of V-notch. Keep logging debris out of this notch. Additional landings may be needed to log unit.

name: Richard R. Zabriskiedate: 2/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY TEMPORARY DRIVE OFF OF ROAD 7727.

## name:

date: 2/18/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

no fish concerns 1988  
no fish concerns 1988

## name:

date:

## SOILS:

RESOURCE CONCERNS: Absence of high mass movement hazard due to unit and compact till is present. Recommended that southeast boundary be adjusted to exclude 0 hectare, two full suspensions, no logging across the notch.

## name:

## WILDLIFE:

date: 11/6/90

RESOURCE CONCERNS: Loss of Northwest deer winter range and Moderate High Marden habitat. Boundary pulled up out of estuary fringe.

## name:

Michael J. Weber

date: 10/26/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

## name:

date:

## CULTURAL:

RESOURCE CONCERNS:

## name:

date:

Reviewed By:

With soils concerns for high logging, compact till soils. Logging operation may need to be changed to provide suspension.

## title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 104 ACRES 46

STATEMENT OF INTENT BY IDT: maintain a 100' buffer on the Class II stream along the west boundary and split yard away from V-notches in the central portion of unit. 205 class will go from stream to km. Suspension will minimize soil disturbance.		SILVICULTURE Rx SYNOPSIS Clearcut unit, Piedmont plant species are western hemlock and mixed conifers. Western hemlock areas will regenerate naturally. Consider planting mixed conifer areas with Alaska cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 81 (class). If possible, retain 3 pings per acre for adjacency.	
UNIT DESIGN (PLANNED) LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1150 PHOTO INFO: YR 1976 FLT LN 32 A STEREO PR 476/192-193 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840		TIMBER & LOGGING SYSTEMS Unit designed for upmill logging with live skyline/flyer system. One end log suspension required to minimize disturbance to high hazard split yard V-notches. Name: Richard R. Z. 3/16/91	
ROADS & ACCESS ROAD 7127 NO CONCERNS		RESOURCE CONCERNS: UNIT ACCESSED BY	
name: A. C. 3/18/91		date: 3/18/91	
FISHERIES & HYDROLOGY		RESOURCE CONCERNS: maintain 100' buffer along class 2 stream Vg8	
name: A. C. 3/18/91		date: 3/18/91	
SOILS:		RESOURCE CONCERNS: Compact till and areas of high water movement located along stream. Small streams or shallow channels exist with bluffs along stream in west boundary split yard on V-notches or full suspension. Minimum soil disturbance to 1 ft and suspension, if possible.	
name: R. H. 3/18/91		date: 3/18/91	
WILDLIFE:		RESOURCE CONCERNS: Loss of moderate deer winter range and marten habitat.	
name: Michael T. 3/18/91		date: 3/18/91	
RECREATION & VISUAL:		RESOURCE CONCERNS:	
name: 3/18/91		date: 3/18/91	
CULTURAL:		RESOURCE CONCERNS:	
name: 3/18/91		date: 3/18/91	
Reviewed By:		date: 3/18/91	
title: James S. Burns Bayou		Interdisciplinary Team Leader	

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 105 ACRES 33

STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils, preserve northwest of the unit. Ros class will change from SPNM to Rm. No other resource concerns about unit design.

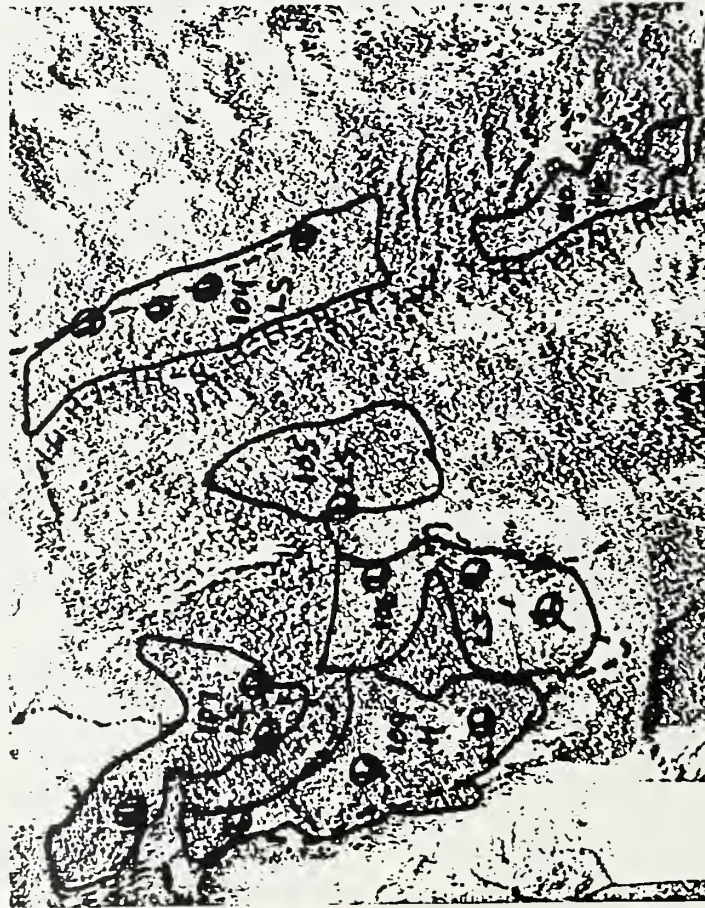
## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 429

PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/192

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15040



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305 H

EXISTING ROAD

PLANNED ROAD

SILVICULTURE Rx SYNOPSIS: Disturb unit. Predominate plant species western hemlock and shade regenerate naturally. Site productivity ranges from low to high with an average site index of 79 (Fair). Predominate plant associations are western hemlock/blueberry and western hemlock/blackberry/shield fern. If possible retain 2 snags per acre for diversity.

TIMBER & LOGGING SYSTEMS: RESOURCE CONCERNS: Unit designed for uphill logging with live skyline/flyer system. One end log suspension needed to minimize disturbance to high hazard soils. Additional landings may be needed to yard unit.

name: Richard R. Zelnick date: 2/16/91

ROADS & ACCESS: RESOURCE CONCERNS: UNIT ACCESSED 13.4. A TEMPORARY SPUR FROM ROAD 729. 5794 ABOVE "H" NOTCH. USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEW IN APPROX. CREEK. A

name: date: 2/16/91

FISHERIES & HYDROLOGY: RESOURCE CONCERNS: No concerns. Dine 1/24/90

Wofish concerns 1998

name: date:

SOILS: RESOURCE CONCERNS: phreatic boundary was adjusted to exclude extreme hazard soils.

name: D. Threlkeld date: 4/6/90

WILDLIFE: RESOURCE CONCERNS: Loss of low med. and high value deer-winter range and high marten habitat.

name: Michael Tweber date: 10/26/90

RECREATION & VISUAL: RESOURCE CONCERNS:

name: date:

CULTURAL: RESOURCE CONCERNS:

name: date:

Reviewed By:

title: Interdisciplinary Team Leader date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 106

ACRES 61

STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils north of the unit and in the center. Directionally fall away from the notch in the center of the unit. Split yard (away from the V-notch in the southern part of the unit. ROS class will change from split to full.

## UNIT DESIGN (PLANNED)

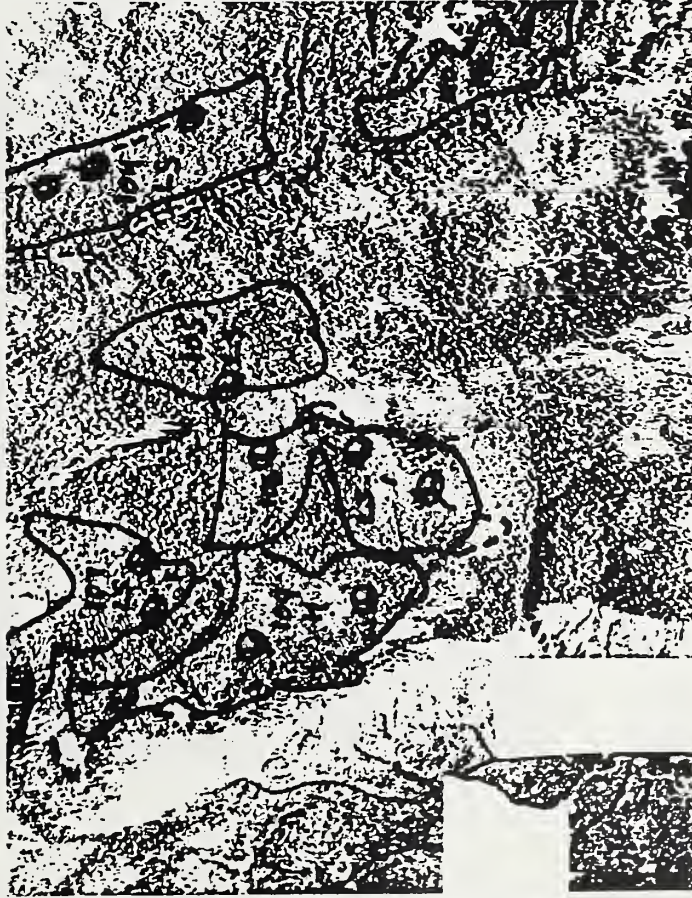
LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1525

PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/192

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

- CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

SILVICULTURE: Clearcut unit. Pseudotsuga plant series is western Hemlock. Regeneration should be natural. Site productivity ranges from low to high with the average site index of 84 (Fair). Pseudotsuga plant associations are western Hemlock/Blackberry shield-fern and western Hemlock/Blackberry. It is possible to retain 2 stages per acre for diversity.

TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: Unit designed for uphill yarding with live skyline/flyer system. Directionally fall away from V-notches and split yard phase notches. Stay out of extreme hazard soils as delineated on photo.

name: Richard R. Zaluski

date: 2/16/91

ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7229 AND IT TEMPORARILY STAYS, KEEP VICES IN V NOTCHES LOW.

name:

A. Cast

date: 2/16/91

FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: NO CONCERNS DUE TO 7229/40.

No fish concerns VGS

name:

date:

SOILS:

RESOURCE CONCERNS: Boundary was adjusted to exclude extreme hazard soils in north 1/3 of unit and in center of unit. Recommend split yarding V-notch in southern part of unit and directionally falling away from notch in center.

name: R. Huesch

date: 11/6/90

WILDLIFE:

RESOURCE CONCERNS: Loss of high-value mountain habitat and moderate & high-latitude winter range.

name: Michael Teuber

date: 10/27/90

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title: James S. Burns, Regional Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 107 ACRES 46

STATEMENT OF INTENT BY IDT: Split and the V-notch in the center of the unit. RLS class will change from SP101 to R11. Avoid extreme hazard soils east and south of the unit. KV opportunity in adjacent clearcut where old road is now a stream channel.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 598

PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/192

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15810



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- (L) LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

(305 H)

EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE Clearcut unit. Predominant plant series is Western Hemlock, thus having natural regeneration. Site productivity ranges from low to high with the average site index being 80 (fair). Unit is adjacent to an old harvest unit. Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Devil's club/stank cabbage. It is possible to retain 2 ranges per acre for diversity.

TIMBER & LOGGING SYSTEMS yarding with live skyline/flyer system. Line and log suspension required to minimize disturbance to high hazard soils. Dispersed fall timber, many vines and split yard. High birding landings may be needed. Tailholds may be a problem due to adjacent old name: Redwood R. 10/18/91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY TWO TRAILHEADS SPACES FROM ROAD 729, CROSS V-NOTCH IN MIDDLE OF UNIT ONCE. name: J. L. date: 2/18/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: ROAD CROSSING HAS CAUSED SOME FISH & SHEEP YARD AREA CHAINING WITHIN UNIT. DATE 10/18/90. name: Michael J. Tuerker date: 10/27/90

SOILS: RESOURCE CONCERNS: Unit is steep and wet. Boundary was adjusted to exclude extreme hazard soils in southwest portion of unit. Perimeter split yarding on notch in south. Potential potential of unit name: R. 10/18/90

WILDLIFE: RESOURCE CONCERNS: Loss of high value habitat in habitat and low, moderate and high elev. winter range. name: Michael J. Tuerker date: 10/27/90

RECREATION & VISUAL: RESOURCE CONCERNS: name: Michael J. Tuerker date: 10/27/90

CULTURAL: RESOURCE CONCERNS: name: Michael J. Tuerker date: 10/27/90

name: Michael J. Tuerker date: 10/27/90

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name: Michael J. Tuerker date: 10/27/90

name: Michael J. Tuerker date: 10/27/90

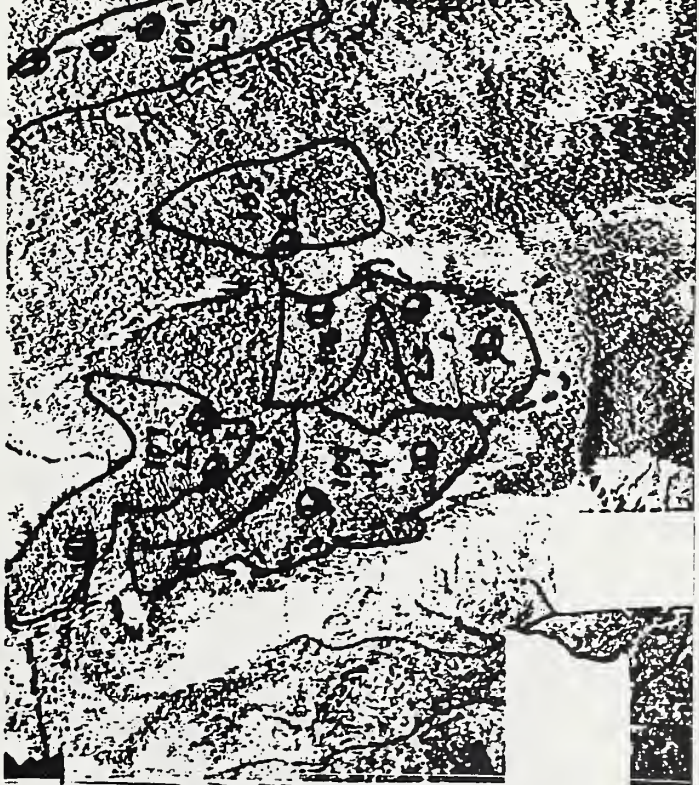
name: Michael J. Tuerker date: 10/27/90

name: Michael J. Tuerker date: 10/27/90

name: Michael J. Tuerker date: 10/27/90



## UNIT DESIGN CARD

UNIT # 109		ACRES 64	
STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils north and east central from the unit. Southern tip stops on the north side of the V-notch. Res class will change from stream to RM.			
UNIT DESIGN (PLANNED) LOG SYSTEM <u>H</u> EST VOLUME/AC <u>13</u> TOT VOLUME <u>832</u> PHOTO INFO: YR <u>1976</u> FLT LN <u>32A</u> STEREO PR <u>476/192</u> 1/4 QUAD ID:			
PLANNED (ORTHO PHOTO) SCALE: <u>1:15840</u> 			
SILVICULTURE RX SYNOPSIS Clear cut unit. Predominant plant series are Western Hemlock and mixed conifer. Western Hemlock areas should regenerate naturally. Consider planting mixed conifer areas with Alaska Cedar to maintain conifer composition. Site production changes from low to high with the average site index being 52 (bare). Unit is adjacent to an old harvested unit. It is possible to replant a softwood forest for diversity. Predominant plant associations are western hemlock/plantation and mixed conifer/deciduous/deciduous. 100 to 1000 ft. elevation. 2/11/91			
TIMBER & LOGGING SYSTEMS RESOURCE CONCERNS: Unit designed for biological yarding, both up and downhill. Leads to landing. To avoid yarding through small meadows in unit. Directionally fall away from these meadows and away from adjacent old harvest unit to prevent regeneration. For holds may be a problem due to adjacent old harvest unit. name: <u>Beland R. Zuercher</u> date: <u>2/11/91</u>			
ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY HIGHWAY TEMPORARY SPURS FROM ROAD 9928 BECAUSE OF ROAD CLOSURE. ROAD, USE NATURAL LANDSCAPE TO SUGGEST ROAD CUTS FROM WIND IN APPROX. COVER. name: <u>Beland R. Zuercher</u> date: <u>2/11/91</u>			
FISHERIES & HYDROLOGY RESOURCE CONCERNS: MINIMUM SAFE BANK BOUNDARY ON N-WARD, SOUTH SIDE OF UNIT. DFK 10/14/90. <u>No fish concerns 1978</u>			
name: _____ date: _____ SOILS: _____ RESOURCE CONCERNS: Boundary was adjusted to avoid areas of extreme soil hazard in eastern part of unit.			
name: <u>P. Huercher</u> date: <u>11/1/90</u> WILDLIFE: _____ RESOURCE CONCERNS: Loss of high value deer winter range and high value winter habitat.			
name: <u>Michael J. Weber</u> date: <u>10/22/90</u> RECREATION & VISUAL: _____ RESOURCE CONCERNS:			
name: _____ date: _____ CULTURAL: _____ RESOURCE CONCERNS: Field crew notes indicate potential for cultural resource. Alaska Yellow cedar trees?			
name: <u>J.A.B.</u> date: <u>2/18/91</u> Reviewed By:			
title: <u>James S. Burns' Biography</u> date: <u>2/18/91</u> Interdisciplinary Team Leader			



## UNIT DESIGN CARD

UNIT # 110 ACRES 19

STATEMENT OF INTENT BY IDT: provide a 100' buffer on the Class II stream along the west boundary. Unit contains some extreme muskeg soils but use of helicopters will mitigate. R's class changes from spruce to t.m.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 475

PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/492  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15,440



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS  
element unit. Dominant plant series is western hemlock and should regenerate naturally. Site productivity ranges from low to moderate with the average site index being 81 (fair). Predominant plant associations are western hemlock/blueberry and mixed conifer/blueberry. It is possible to retain a single species for diversity.

TIMBER & LOGGING  
SYSTEMS  
helicopter yard unit Fly timber to landing in unit 104. Successionally fall timber away from stream buffer along west boundary.

name: Richard R. Zebrowski

date: 2/16/91

ROADS & ACCESS  
RESOURCE CONCERNS: FLY LOGS DOWN TO AND ON THE LANDING IN UNIT 104. NO CONCERNS.

name:

date: 2/16/91

FISHERIES & HYDROLOGY  
RESOURCE CONCERNS: MINOR NO. BUFFER TO CLASS II STREAM, SOME WEST SIDE OF UNIT TO PUNNET CATCHMENT AND WATER QUALITY. D/FK 11/29/90

Maintain wide buffer on to slope break on class 2 stream. 079

name:

date:

SOILS:  
RESOURCE CONCERNS: Boundary was adjusted to avoid areas of extreme soil hazard

name: R. Hurd

date: 11/6/90

WILDLIFE:  
RESOURCE CONCERNS: Loss of mature deciduous forest range and warbler habitat.

name: Michael J. Weber

date: 10/27/90

RECREATION & VISUAL:  
RESOURCE CONCERNS:

name:

date:

CULTURAL:  
RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 111 ACRES 14

STATEMENT OF INTENT BY IDT: Keep the southeast boundary at the slope break above the V-notch. Split yard the V-notch in the southern portion of the unit. Red class will change from spruce to fir.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 182PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/193

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
--- PLANNED ROADSILVICULTURE  
Rx SYNOPSIS

Cleared unit. Predominant plant series is Western Hemlock which should regenerate naturally. Site productivity ranges from low to high with the average site index being 91 (Fair). Precommercial thin within 10-15 years. Predominant plant association are Western Hemlock/Blueberry and Western Hemlock/Blueberry/Field-fern. It is possible to retain 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for lighted yarding, both up-and-dam hill. Keep south boundary at slope break of V-notch, diagonally fall away from this notch. Periodically fall timber away from V-notch in unit and split yard it. Redford R. Zaborie date: 2/11/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY SHORT TOWN ROAD 7729. A TEMPORARY SUE NOTCHES THE WEST OF THIS UNIT AND UNIT 113. KEEP SWITCHBACK IN UNIT 100' FROM V" NOTCH name: Redford R. Zaborie date: 2/11/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: MINIMUM 30' BUFFER OF SUE-200' BOUNDARY TO V-NOTCH (CLASS III). WHERE QUANTITY PLANNED ON SUE SIDE OF UNIT. DEC 10/24/90. No fish concerns 1998

## name:

name:

## SOILS:

RESOURCE CONCERNS: Recommended split yarding on V-notch in southern part of unit and stay above slope break along southern boundary.

## name: P. Huelcher

name: P. Huelcher

## WILDLIFE:

RESOURCE CONCERNS: Loss of low value deer winter range and moderate marten habitat.

## name: Michael J. Weber

name: Michael J. Weber

RECREATION &  
VISUAL:

RESOURCE CONCERNS: date: 10/27/90

## name:

name:

## CULTURAL:

RESOURCE CONCERNS: date:

## name:

name:

## Reviewed By:

date:

## title:

Interdisciplinary Team Leader date: 2/18/91



UNIT # 112 ACRES 16

STATEMENT OF INTENT BY IDT: Keep north and south boundaries at the slope breaks of the V-notches. PIS class will change from SPVM to Pm.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 400  
 PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/493  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

cleared unit. Predominant plant series is Western Hemlock and mixed conifer. The Western Hemlock series should regenerate naturally and the mixed conifer series be planted with Alaska cedar to maintain current species composition. Site productivity ranges from low to high with the average site index being 84 (Pm). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/Chickadee. If possible retain 2 snags per acre for diversity. Unit is adjacent to an old harvested unit.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for Uphill yarding with live skyline/flyer system. Keep north boundary at slope break of V-notch, directionally fall timber away from north. V-notches may be a problem due to adjacent old unit.

name: Richard R. Zaborak date: 2/16/91  
 ROADS & ACCESS RESOURCE CONCERNS: Accessed by skid trail from road 7229. Keep gap above "V" notch.

## name:

FISHERIES & HYDROLOGY RESOURCE CONCERNS: Minimum 50' buffer of surf stream boundary on V-notches on north & south sides of unit, to protect class III channels & water quality. DFE 10/14/86

No fish concerns Ugs

## name:

SOILS: RESOURCE CONCERNS: Permanently staying above slope break of V-notch along northern boundary.

name: R. L. Weber

WILDLIFE: RESOURCE CONCERNS: loss of moderate value deer winter range and marten habitat.

name: Michael J. Weber

RECREATION & VISUAL: RESOURCE CONCERNS: date: 10/27/90

## name:

CULTURAL: RESOURCE CONCERNS: date:

## name:

Reviewed By: date:

## title:

James S. Burns Bueyski date: 2/18/91  
 Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: keep north and southwest boundaries at the slope breaks of the V-notches. Split yard the V-notches within the unit to protect Class I habitat down stream. RCS class changes from split yard to Rm.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1850

PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/194

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

UNIT # 113

ACRES 74

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Precommercial plant series are western hemlock and mixed conifer western hemlock areas should regenerate naturally. Consider planning mixed conifer areas with alder-cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 90 (fair). Consider stand for precommercial thinning in 20-25 years. Unit is adjacent to old harvest unit. If possible retain 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

Yarding with live skyline / flyer systems. Mechanically yard timber away from V-notches in unit and along boundaries. Split yard V-notches in unit. Tailfields may be a problem due to adjacent old harvest unit. Tail timber into old unit to prevent regeneration. name: fieldwork 2/18/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY TEMPORARY SPUR FROM ROAD 7729, LEFT ROAD MINIMUM 100' FROM V-NOTCH MAY NEED ADDITIONAL TEMPORARY SPURS TO ROAD TO AVOID LANDSLIDE LOCATIONS. date: 2/18/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: DIRECTIONAL FISH AND SALMON RUNS AWAY FROM THE V-NOTCHES WITHIN UNIT TO ADJACENT WATERS. QUALITY IN THE CLASS I STREAMS SIGNIFICANT IN THE UNIT. DATE 10/18/90.

Split yard to protect Class I habitat downstream. Vg

name:

date:

## SOILS:

RESOURCE CONCERNS: North and southwest boundaries were adjusted to stay out of extreme heaved soils. Recommend split yarding on V-notches within the unit as noted on the photo.

name: R. Huxsack

date: 11/6/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of madrone culture deer-winter range and marten habitat.

name: Michael Tweber

date: 10/27/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

James S. Bunnell Benjamin  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: *Avoid extreme hazard soils between units 151 and 111. Split yard V-notches in the unit. 205 class change from SPNM to PM. Unit design will picket soils and water quality*

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 2175  
 PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/194  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:15000

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

UNIT # 114ACRES 119

SILVICULTURE  
 Rx SYNOPSIS  
 Clearcut unit. Predominant plant series is western hemlock and coastal redwood naturally. Site productivity ranges from moderate to high with the average site index being 80 (fair). Predominant plant associations are western hemlock/blueberry and western hemlock/shield fern. Unit is adjacent to old harvest unit. If possible retain 2 snags per acre for diversity.

TIMBER & LOGGING  
 SYSTEMS  
 Timber away from V-notches inside unit, jagged unit boundary and away from adjacent old harvest unit. Split yard V-notches in unit. Fullholds may be a possibility. *Robert R. Zelenko*  
 name: Robert R. Zelenko date: 2/16/91

ROADS & ACCESS  
 RESOURCE CONCERNS: UNIT ACCESSED BY ROAD  
 SBB: WILL ADD THESE ADDITIONAL TEMPORARY SPURS  
 CROSSING, CROSS "V" NOTCH IN MIDDLE OF UNIT OVER  
 name: Robert R. Zelenko date: 2/16/91

FISHERIES &  
 HYDROLOGY  
 RESOURCE CONCERNS: ADJUST UNIT BOUNDARY TO STAY  
 AHEAD OF V-NOTCH (CLASS III, WATER QUALITY) SOUTH SIDE OF  
 UNIT. DIRECTLY AHEAD OF V-NOTCH ON V-NOTCH. DEC. 1978/90.  
 name: Robert R. Zelenko date: 2/16/91

Class 2 stream along S. boundary. Maintain unit  
 boundary at slope break. 1988

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: \_\_\_\_\_ RESOURCE CONCERNS: Unit boundary was adjusted to  
 stay clear of soils with an extreme hazard along southern boundary.  
 Recommended split yarding on V-notches inside unit boundary

name: R. H. Tucker date: 11/6/90  
 WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: Loss of moderate value  
 deer winter range and high value marten habitat.

name: Michael Truiber date: 10/27/90  
 RECREATION & RESOURCE CONCERNS:  
 VISUAL: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
 CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By: *Note concern for tail holds along  
 adjacent old harvest unit.*

title: James S. Brunel Beyerski date: 2/18/91  
 Interdisciplinary Team Leader

CMA-1900-05

## UNIT DESIGN CARD

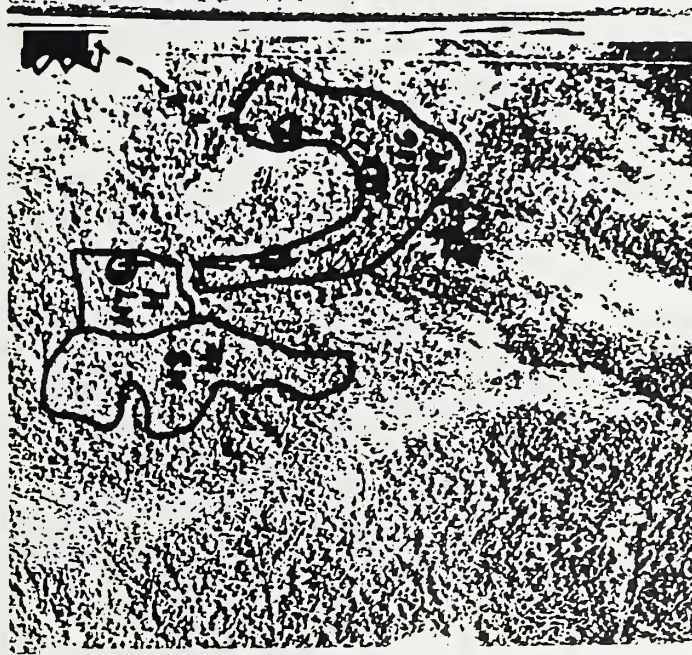
UNIT # 116 ACRES 52

STATEMENT OF INTENT BY IDT: Keep NW and NE boundaries at the slope breaks above V-notches. Split yard V-notches in the unit. Avoid extreme natural soils along northwest boundary. P-5 class change from SPUM to Pm.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1300PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076/154

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
 PLANNED ROADSILVICULTURE  
Rx SYNOPSIS

Clearcut unit. Predominant plant series is Western Hemlock which should regenerate naturally. Site productivity ranges from low to moderate with the average site index of 73 (Fair). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/Skunk cabbage. It is possible to retain a sugar per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for Roundhill highhead logging. Keep boundaries at slope break at V-notches and direct locally fall timber away from these notches. Additional landings may be needed to yard unit. Directly fall away from split yard V-notches in unit. name: Roundhill date: 3/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT IS ACCESSED BY ROAD 75884. CROSS CLASS III STREAMS PERPENDICULAR TO ROAD. A BACK PIT MAY BE LOCATED ALONG ROAD.

FISHERIES &  
HYDROLOGY

name: J. Cant date: 2/18/91  
 RESOURCE CONCERNS: MINIMUM SCORE DECIDE ON 50.  
 Stream boundary on NW NW V-notches, CLASS III WD.  
 DFE 1-12-90

*No fish concerns VGS.*

name:

SOILS:

RESOURCE CONCERNS:

date:

name:

WILDLIFE:

RESOURCE CONCERNS:

date:

loss of moderate and high deer winter range and high value marten habitat.

name: Michael Tweber

RECREATION &amp;

VISUAL:

RESOURCE CONCERNS:

date: 10/27/90

name:

CULTURAL:

RESOURCE CONCERNS:

date:

name:

Reviewed By:

date:

title:

*James S. Burns Bugader*  
 Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 117 ACRES 24

STATEMENT OF INTENT BY IDT: Keep north and south boundaries at the slope breaks above the V-notches. ROS class change from SPNM to PM.

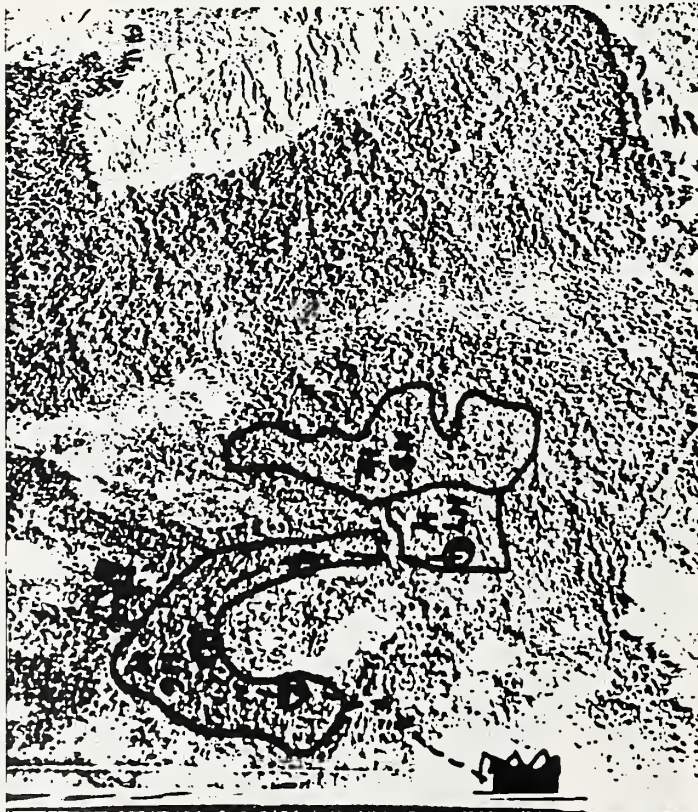
## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 312

PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076/154

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840



LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE Clearcut unit. Predominant plant series is western hemlock, which should regenerate naturally. Site productivity ranges from moderate to high with an average site index of 86 (prior). Predominant plant association are western hemlock/blueberry and western hemlock/blueberry/shield-fern. It possible retain 2 snags per acre for diversity.

TIMBER & LOGGING SYSTEMS highland logging. Directionally fall timber away from stream buffer along south boundary.

name: Richard R. Zaborge date: 2/16/91

ROADS &amp; ACCESS RESOURCE CONCERNS: UNIT ACCESS RD BY A TEMPORARY SPUR FROM ROAD 75884. USE CULVERT IN CLASS III CROSSING

name: *[Signature]* date: 2/16/91

FISHERIES &amp; HYDROLOGY RESOURCE CONCERNS: DELETE HAZARDOUS SOILS AREA TO REDUCE LAKE IMPACT AND POSSIBLE SEDIMENT DELIVERY TO THE CLASS I, VALLEY BOTTOM STREAM

In fish concerns VGS

name:

SOILS: RESOURCE CONCERNS:

date:

name:

WILDLIFE: RESOURCE CONCERNS: loss of high value martin habitat and deer winter range.

date:

name: Michael J. Weber date: 4/22/90

RECREATION &amp; VISUAL: RESOURCE CONCERNS:

name:

CULTURAL: RESOURCE CONCERNS:

date:

name:

Reviewed By:

title:

James S. Burns, Bryan  
Interdisciplinary Team Leader

date: 2/18/91

GMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: Keep the southeast boundary at the slope break above the V-notch. ROS class change from SPUM to PM.		UNIT # 118		ACRES 41	
<p>SILVICULTURE Rx SYNOPSIS</p> <p>Clearcut unit. Predominant plant series is Western Hemlock and should regenerate naturally. Site productivity ranges from low to high with the average site index of 93 (Fair). Precommercial thin within 20-25 years. Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry. If possible retain 2 snags per acre for diversity.</p>		<p>TIMBER &amp; LOGGING SYSTEMS</p> <p>Directionally fall timber away from V-notches in unit.</p>		<p>RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to landing in unit 117.</p>	
<p>LOG SYSTEM <u>HE</u> EST VOLUME/AC <u>13</u> TOT VOLUME <u>533</u></p>		<p>name: <u>Richard A. Zeleny</u> date: <u>2/16/91</u></p>		<p>ROADS &amp; ACCESS UNIT 116 TO FLT LN LOGS TO.</p>	
<p>PHOTO INFO: YR <u>1976</u> FLT LN <u>31</u> STEREO PR <u>1076/154</u></p>		<p>name: <u>Richard A. Zeleny</u> date: <u>2/18/91</u></p>		<p>FISHERIES &amp; HYDROLOGY</p> <p>ON SOUTHEAST V-NOTCH (CLASS III WATER QUALITY SPECTRA) OF 14/14/90</p>	
<p>1/4 QUAD ID: <u>PLANNED (ORTHO PHOTO)</u> SCALE: <u>1:15840</u></p>		<p>name: <u>Richard A. Zeleny</u> date: <u>2/18/91</u></p>		<p>SOILS: <u>RESOURCE CONCERNS: Due to steep slopes require full suspension of log during hauling. Directionally fall away from notches small inclusions.</u></p>	
<p>LEGEND</p> <p>CLASS I STREAM CLASS II STREAM CLASS III STREAM BUFFER ZONE LANDING</p>		<p>name: <u>Richard A. Zeleny</u> date: <u>2/18/91</u></p>		<p>WILDLIFE: <u>RESOURCE CONCERNS: Loss of moderate to high value marten habitat and low and high deer winter-range.</u></p>	
<p>UNIT BOUNDARY, NUMBER, + LOGGING METHOD</p> <p>305 H</p> <p>EXISTING ROAD PLANNED ROAD</p>		<p>name: <u>Michael J. Weber</u> date: <u>10/27/90</u></p>		<p>RECREATION &amp; VISUAL: <u>RESOURCE CONCERNS:</u></p>	
<p>Reviewed By:</p>		<p>name: <u>Richard A. Zeleny</u> date: <u>2/18/91</u></p>		<p>CULTURAL: <u>RESOURCE CONCERNS:</u></p>	
<p>title: <u>James S. Bernard Bergmark</u> date: <u>2/18/91</u></p>		<p>name: <u>Richard A. Zeleny</u> date: <u>2/18/91</u></p>		<p>Interdisciplinary Team Leader</p>	

## UNIT DESIGN CARD

UNIT # 119

ACRES 26

STATEMENT OF INTENT BY IDT: Directionally fall away from the U-notches and avoid the extreme hazard soils southeast of the unit. RUS class change from SPM to FM.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 650PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076/155

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15140



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
---  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series is Western Hemlock and should regenerate naturally. Site productivity ranges from moderate to high with the average site index of 87 (Fair). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/shield-fern. Unit is adjacent to old harvest unit. It is possible to retain a snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

believer yard unit. Fly timber to landing along road below unit. Directly fall timber away from old harvest unit along west boundary.

name:

Robert R. Johnson

date: 2/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZE THE INTERSECTION OF ROADS 7588 AND 75881 AS A LANDING TO FLT LOGS TO.

name:

A. L. L.

date: 2/18/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

No fish concerns.

name:

date:

## SOILS:

RESOURCE CONCERNS:

showed some on ground review of stability of soils pure ~~the~~ during layout. Very overstepped name: 2/17/91

## WILDLIFE:

RESOURCE CONCERNS:

loss of high value deer winter range and marten habitat.

name:

Michael Twibber

date: 2/27/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By: Note request for soils review during layout.

title:

Interdisciplinary Team Leader

date: 2/18/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 120 ACRES 17

STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils west of the unit and keep the north boundary 50' back from the V-notch or at the slope break. POS class change from 3PM to 4PM

UNIT DESIGN (PLANNED)

LOG SYSTEM	HE	EST VOLUME/AC	TOT VOLUME
		13	221

PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076/157

1/4 QUAD ID:

**PLANNED (ORTHO PHOTO)**

**SCALE:**

1:15840

A high-contrast, black and white photograph of a textured surface, possibly a rock face or a close-up of a material. The image is heavily degraded with significant noise and artifacts, including a large white rectangular area in the top left corner. The texture is rough and uneven, with many small pits and protrusions. A prominent, dark, irregular shape is visible in the center-right area, which could be a shadow or a specific feature of the surface. The overall appearance is grainy and noisy, typical of a low-quality scan or a heavily processed image.

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

Reviewed By:


name: James S. Burns Byarski  
title: Interdisciplinary Team Leader date: \_\_\_\_\_

CMA-1900-05

17



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: Keep the northwest and southeast boundaries at the slope breaks above the U-notches. Split yard away from the U-notch in the unit. Unit is in a REC place and presents a visual concern.		UNIT # 122		ACRES 2.8	
<p>SILVICULTURE Rx SYNOPSIS</p> <p>Clearcut unit. Predominant plant species is Western Hemlock and should regenerate naturally. Site productivity ranges from low to high with the average site index being 95 (Fair). Precommercial thin within 20-25 years. Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blackberry/fern. Unit is adjacent to old harvest unit. It is possible to retain a snag per acre for diversity.</p>		<p>UNIT DESIGN (PLANNED)</p> <p>LOG SYSTEM <u>L5</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>760</u></p> <p>PHOTO INFO: YR <u>1976</u> FLT LN <u>31</u> STEREO PR <u>1076/157</u></p> <p>1/4 QUAD ID: _____</p> <p>PLANNED (ORTHO PHOTO) SCALE: <u>1:15000</u></p>			
		<p>TIMBER &amp; LOGGING SYSTEMS</p> <p>Logging with a live skyline/floor system. One end log suspension required due to high blazed skids. Directionally fall timber away from U-notch along unit boundary and within unit. Split yard by notching in unit.</p> <p>name: <u>Richard R. Zuber</u> date: <u>2/16/91</u></p>			
<p>ROADS &amp; ACCESS</p> <p>TEMPORARY SPUR FROM ROAD 75882. USE A CUTWATER TO CROSS U-NOTCH GETTING TO UNIT. USE NATURAL LANDFORMS TO SLOTTED ROAD CUTS FROM VIEWS W/ APPROXIMATE DOVE.</p> <p>name: <u>Richard R. Zuber</u> date: <u>2/16/91</u></p>		<p>RESOURCE CONCERNS: UNIT ACCESSED BY A TEMPORARY SPUR FROM ROAD 75882. USE A CUTWATER TO CROSS U-NOTCH GETTING TO UNIT. USE NATURAL LANDFORMS TO SLOTTED ROAD CUTS FROM VIEWS W/ APPROXIMATE DOVE.</p>			
<p>FISHERIES &amp; HYDROLOGY</p> <p>PROTECT CUTS AT WATER QUALITY SENSITIVE. DISCHARGE THE TWO SLOTTED YARDS ON U-NOTCH'S WITHIN UNIT. DFR, 10/18/90.</p> <p>name: <u>Richard R. Zuber</u> date: <u>2/16/91</u></p>		<p>RESOURCE CONCERNS: MAINTAIN 30' BUFFER ON SLOTTED BREAK BOUNDARY ON V-NOTCH, NEW SIDE OF UNIT. TO PROTECT CUTS AT WATER QUALITY SENSITIVE. DISCHARGE THE TWO SLOTTED YARDS ON U-NOTCH'S WITHIN UNIT. DFR, 10/18/90.</p>			
<p>SOILS:</p> <p>and steep slopes require at least partial suspension view of logs.</p> <p>name: <u>Richard R. Zuber</u> date: <u>2/16/91</u></p>		<p>RESOURCE CONCERNS: Multiple vine-logs under and steep slopes require at least partial suspension view of logs.</p>			
<p>WILDLIFE:</p> <p>high value deer winter range and moderate marten habitat.</p> <p>name: <u>Michael J. Weber</u> date: <u>10/27/90</u></p>		<p>RESOURCE CONCERNS: Loss of moderate and high value deer winter range and moderate marten habitat.</p>			
<p>RECREATION &amp; VISUAL:</p> <p>name: <u>Michael J. Weber</u> date: <u>10/27/90</u></p>		<p>RESOURCE CONCERNS:</p>			
<p>name: _____ date: _____</p>		<p>name: _____ date: _____</p>			
<p>CULTURAL: _____</p>		<p>RESOURCE CONCERNS: _____</p>			
<p>name: _____ date: _____</p>		<p>name: _____ date: _____</p>			
<p>Reviewed By: _____</p>		<p>title: <u>James S. Beard Bayard</u> date: <u>2/18/91</u></p>			
<p>LEGEND</p> <p>CLASS I STREAM</p> <p>CLASS II STREAM</p> <p>CLASS III STREAM</p> <p>BUFFER ZONE</p> <p>LANDING</p>		<p>UNIT BOUNDARY, NUMBER, + LOGGING METHOD</p> <p><u>305</u> <u>H</u></p> <p>EXISTING ROAD</p> <p>PLANNED ROAD</p>			

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## UNIT DESIGN CARD

UNIT # 123

ACRES 6

STATEMENT OF INTENT BY IDT: Keep southeast boundary at the slope break above V-notch. Avoid extreme hazard soils northwest of unit. Unit is in a REC place and raises visual concerns.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 150PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076/157  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1"=15640'

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 UNIT BOUNDARY, NUMBER,  
H + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS Cleared unit. Predominant plant series is Western Hemlock and should regenerate naturally. Site productivity ranges from low to high with the average site index being 39 (fair). Predominant plant associations are Western Hemlock/Blueberry/shield-fern and Western Hemlock/Blueberry. If possible retain a snags per acre for diversity.

## TIMBER &amp; LOGGING

SYSTEMS Stanton Timber 2/12/91  
downhill lighted yarding. Directionally fall timber away from V-notches along boundary. Tailholts may be a problem due to adjacent moosey.

## ROADS &amp; ACCESS

name: Richard R. Zabriskie date: 2/16/91  
RESOURCE CONCERNS: UNIT ACCESSED BY SAME TEMPORARILY FOR THE ACCESS UNIT 122.

## name:

## FISHERIES &amp; HYDROLOGY

name: J. Lutz date: 2/18/91  
RESOURCE CONCERNS: minimum 50' buffer on slope - ALTHOUGH AQUIFERS ON V-NOCH, SE SIDE OF UNIT TO PROTECT CLASS III, WATER QUALITY STREAM. DEC, 10/24/90

No fish concerns 198.

## name:

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

## name:

## WILDLIFE:

## RESOURCE CONCERNS:

name: R. Lutz date: 3/7/91  
winter range and moderate marten habitat.

## name:

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

name: Michael Tuleber date: 10/27/90

## name:

## CULTURAL:

## RESOURCE CONCERNS:

## name:

## Reviewed By:

note concerns for locating tailholts. Unit may be dropped if inadequate tailholts exist.

## title:

James S. Bernard Bengtson date: 2/18/91  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 124 ACRES 26

STATEMENT OF INTENT BY IDT: Keep eastern boundary at the slope break above V-notch. Unit is in a REC place and raises visual concerns.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 13 TOT VOLUME 338PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076/157  
1/4 QUAD ID:PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
H UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE Clearcut unit. Predominant plant series is Western Hemlock and alder regenerate naturally. Site productivity ranges from low to high with the average site index being 70 (fair). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry. Devils Club. If possible retain 2 snags per acre for diversity.

TIMBER & LOGGING SYSTEMS Slackline yarding, with up-and-downhill. One end log suspension system to minimize disturbance to high hazard soils. Directionally fall timber away from V-notches adjacent to and within unit. Split yard. V-notches in unit. name: Richard R. Zuber date: 2/16/91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75882. USE NATURAL LANDSCAPE IN UNIT TO SCREEN ROAD CUTS FROM VIEWS IN ADJACENT COVE.

name: Richard R. Zuber date: 2/16/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: FISHING 30' BUFFER ON SLOPE BREAK BOUNDARY ON CLASS III, WATER QUALITY DETERMINED ON EAST SIDE OF UNIT. SPLIT YARD V-NOTCH WITHIN UNIT 1076/157. No fish concerns UFS.

name: Richard R. Zuber date: 2/16/91

SOILS: RESOURCE CONCERNS: Partial suspension needed in ETC in unit due to multiple small

name: Richard R. Zuber date: 2/16/91

WILDLIFE: RESOURCE CONCERNS: Loss of moderate value deer winter range and high marten habitat.

name: Michael J. Weber date: 10/27/90

RECREATION & VISUAL: RESOURCE CONCERNS:

name: Michael J. Weber date: 10/27/90

CULTURAL: RESOURCE CONCERNS:

name: Michael J. Weber date: 10/27/90

Reviewed By: James S. Burned Bayanli date: 2/18/91

Interdisciplinary Team Leader

title: James S. Burned Bayanli date: 2/18/91

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## UNIT DESIGN CARD

UNIT # 125 ACRES 20

STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils northeast of unit boundary. Unit is in a PEC place and raises visual concerns.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 500PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076/1571/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840

LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

(305 H)

UNIT BOUNDARY, NUMBER + LOGGING METHOD

EXISTING ROAD  
---  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

cleant unit. Predominant plant series are Western Hemlock and mixed conifer. Western Hemlock areas should regenerate naturally, while the mixed conifer areas should be planted with the Black-cedar to maintain current species composition. The productivity ranges from low to high with the average site index of 84 (Fair). Predominant plant associations are Western Hemlock/Blackberry and mixed conifer/Blackberry. Unit is adjacent to old harvest unit. If possible, retain a snag for diversity.

Stanley Tuesday 2/16/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for downhill lighted yarding. Lower tie downs may be problem due to adjacent moose. Additional landing may be needed to log unit.

name: Richard A. Zabriskiedate: 2/16/91

ROADS &amp; ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY A. TRANSPORT SPUR FROM 7588. KEEP SPUR OUT OF CLASS II STREAM.

name:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: no concerns DFC number

date: 2/18/91

No fish concerns UFS.

name:

## SOILS:

Cable yard. No soils concerns

date:

name: R. Zabriskie

## WILDLIFE:

habitat and low value clear winter range. loss of high value winter habitat

date: 2/17/91name: Michael Twilbert

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

date: 10/27/90

name:

## CULTURAL:

RESOURCE CONCERNS:

date:

name:

date:

Reviewed By: Note concerns for tower tie down and tail holds in scrubby timber adjacent to muskego. Unit size slope may change during log out.

title: James S. Burnal Bayarskii  
Interdisciplinary Team Leader

date: 2/18/91

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## UNIT DESIGN CARD

UNIT # 126 ACRES 3.1

ACRES 31

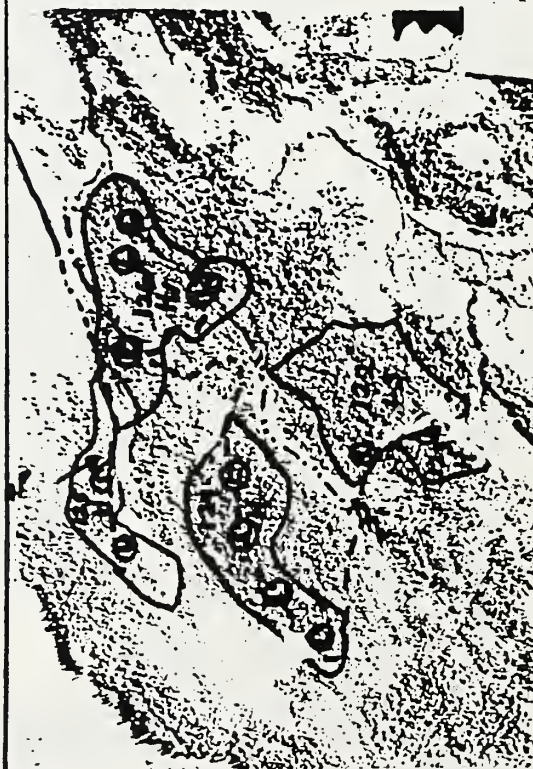
STATEMENT OF INTENT BY IDT: Directionally fall away from V-notch along north boundary keeping a 50' buffer on the stream. Unit is in a RED place and presents visual concerns.

UNIT DESIGN (PLANNED)

LOG SYSTEM	EST VOLUME/AC	TOT VOLUME
44	13	416

PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076/157

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 UNIT BOUNDARY, NUMBER,  
H + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

**SILVICULTURE**  
**Rx SYNOPSIS**

Alaska - cedar to  
rain low to moderate  
but associations  
unit is adjacent  
to diversity.

**TIMBER & LOGGING  
SYSTEMS**

timber away from V-niches in our and many from adjacent all houses  
cont. split yard V-niches in cont. additional landings may be  
involve the yard  
name: Richard Smith  
date: 2/11/91

ROADS & ACCESS	RESOURCE CONCNS: UNIT ACCESSED BY ROAD 75882. A TEMPORARY SPUR WILL BE NEEDED TO REACH THE EAST PAULI OF UNIT. KEEP SPUR MINIMUM 50', CLEAR CLASS III STRONG	name <i>11</i> date: 2/15/81
----------------	--	------------------------------

FISHERIES & HYDROLOGY	RESOURCE CONCERNS: <i>c. 450-700 water quality factors Agriculture, no impact at 7000 feet, forested area</i>	<i>J. C. G.</i>	<i>Succ. # 1897</i>
-----------------------	---	-----------------	---------------------

Proposed concerns U.S.

name:

SOILS:	Vermiculites V. c. 26 name: K. West
RESOURCE CONCERNS:	yard away from to minimize so. / disturbance i.e. date: 2/2/91

WILDLIFE:	RESOURCE CONCERNS: logged high-value riparian habitat and make deer winter range.
-----------	---

name: Michael J. Weber date: 10/27/40

name: \_\_\_\_\_ data: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

Reviewed By:

James S. Beardsley, Jr.  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

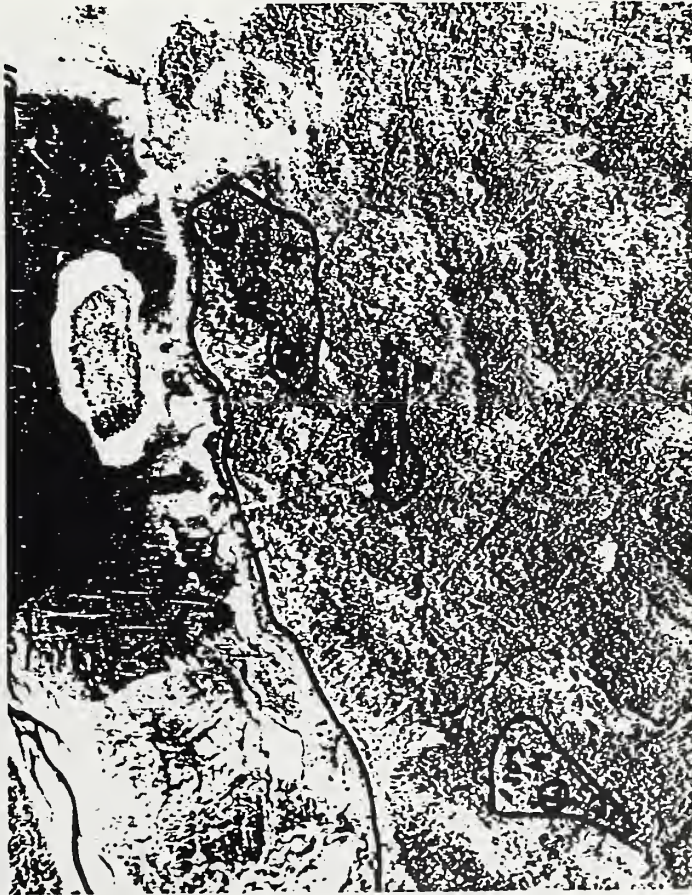
UNIT # 127 ACRES 13

STATEMENT OF INTENT BY IDT: keep the west boundary out of the V-notch. Unit is partially in Rec. Place and presents visual concerns.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 169PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476/191  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- (L) LANDING

305  
H UNIT BOUNDARY, NUMBER  
+ LOGGING METHOD

EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are Western Hemlock and mixed conifer. western Hemlock areas should regenerate naturally and mixed conifer areas should be planted with Alaska cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 32 (Herr). Predominant plant associations are Western Hemlock/Blackberry and mixed conifer/Blackberry/Beet cabbage. If possible retain 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

Resource CONCERNS: Unit designed for clearcut logging. Keep west boundary at slope break of V-notch, keep logging debris out of this notch. Potential black bear in shed to two, large area problem.  
name: Michael J. Tucke date: 2/16/91

## ROADS &amp; ACCESS

Resource CONCERNS: UNIT ACCESSED BY ROAD  
7727. no concerns.

## name:

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

fish concern ops  
No concerns with wildlife

date: 2/16/91

## name:

## SOILS:

## RESOURCE CONCERNS:

No concerns

date:

name: P. Haverd

## WILDLIFE:

## RESOURCE CONCERNS:

habitat and moderate clear-cutting range.  
loss of high value mountain

date: 11/6/90name: Michael J. TuckeRECREATION &  
VISUAL:

## RESOURCE CONCERNS:

date: 12/26/90

## name:

## CULTURAL:

## RESOURCE CONCERNS:

date:

## name:

date:

Reviewed By: John S. Blund Blund in field notes. Unit size on slope may change during field report.

## title:

Interdisciplinary Team Leader

date: 2/13/91

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STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to visuals, recreation and soils. Split yard V-notches. Keep southwest boundary at slope break above stream.

UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 700-1200

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076-186

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1"=150'



LEGEND

Unit Boundary	—	Existing Spec Rd.	—
Landing	(L)	Planned Road	- - - -
Split Line	• • •	Temporary spur	—
Full Suspension	F	Road closure	X
Partial Suspension	P	(after haul)	X
Stream	←	Streamside zone	~~~~~

SILVICULTURE  
Rx SYNOPSIS  
Partial cut unit. Cut approximately 20% of the acreage with group selection cuts. Cut skyline windows. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to Alaska-cedar to maintain current species composition. Site productivity ranges from fair to high with an average site index of 73 (Fench).  
name: Beland R. Zelnick date: 2/14/91

TIMBER & LOGGING  
SYSTEMS  
RESOURCE CONCERNS: Unit designed for split yarding with live skyline/floor system. If logging occurs near V-notches, directionally fall timber away from them and split yard them. Try to angle skyline windows to reduce visual impacts.  
name: Beland R. Zelnick date: 2/14/91

ROADS & ACCESS  
RESOURCE CONCERNS: UNIT ACCESSED BY ROADS 7724 AND 77241. NUMEROUS TEMPORARY SPURS ARE BLOCKED. USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN PORTH STRAIT.  
name: A. C. C. date: 2/18/91

FISHERIES & HYDROLOGY  
RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS:  
RESOURCE CONCERNS: Request field review to design cut to avoid hazardous soils on recent and potential suspension to reduce soil disturbance. Split yard V-notches and keep in place where slope break in southern part of unit.  
name: R. H. H. H. date: 2/14/91

WILDLIFE:  
RESOURCE CONCERNS: Loss of deer wintering area and marten habitat. Small interspersed openings will probably not be suitable snag retention.  
name: M. J. Weber date: 2/15/91

RECREATION & VISUAL:  
RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL:  
RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_ date: \_\_\_\_\_

title: James S. Beland Bumpski date: 2/18/91

Interdisciplinary Team Leader

CMA-1900-05



# Alternative 5

## UNIT DESIGN CARD

ACRES 144

UNIT # 128

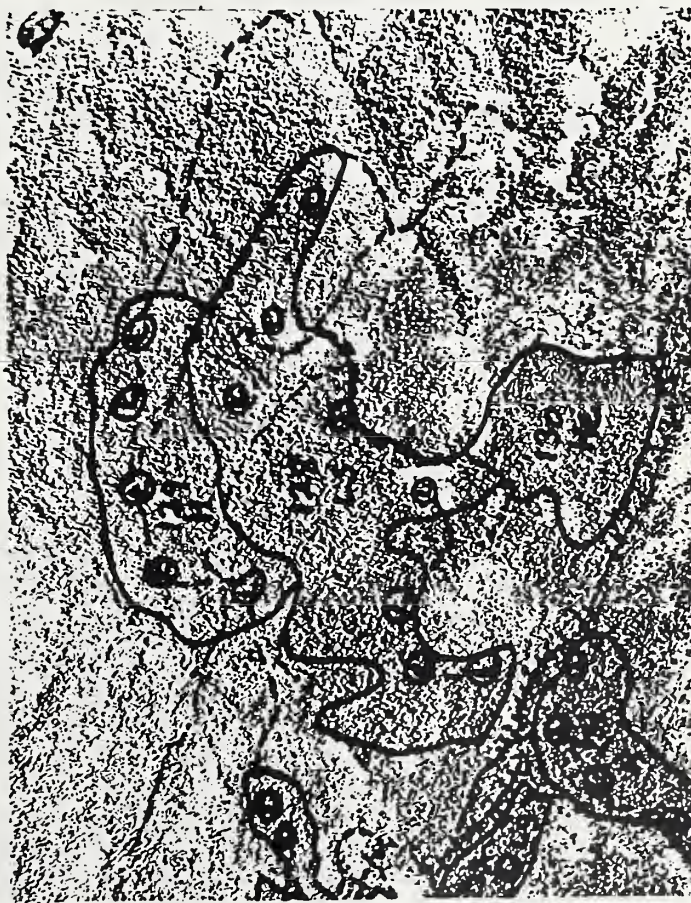
STATEMENT OF INTENT BY IDT: Split yard away from Unnotches in Unit and avoid extreme hazard soils. Keep southernmost boundary at the slope break above stream. FOS class change from SPNM to Rm and visually sensitive.

### UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 3600

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/186

1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



### LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305 H

EXISTING ROAD  
--- PLANNED ROAD

### SILVICULTURE

Rx SYNOPSIS  
cleared unit. Predominant plant series are Western Hemlock and mixed conifer. Western Hemlock areas should regenerate naturally while mixed conifer areas should be planted with Alaska cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 73 (hard). Predominant plant associations are Western Hemlock/Blueberry and mixed conifer/Blueberry. If possible retain 2 snags per acre for diversity.

### TIMBER & LOGGING

SYSTEMS  
Resource CONCERNS: Unit designed for uphill yarding with a live skyline/fly or system. One end log suspension required to minimize disturbance to high hazard soils. Directionally fall timber away from V-notches in unit and split yard where possible.  
name: Harold R. Zafra date: 2/16/91

ROADS & ACCESS  
Resource CONCERNS: UNIT ACCESSED BY ROADS 7224 AND 72241. NUMEROUS TOPOGRAPHIC FEATURES WILL BE ADDED TO ACCESS THE CANNONS. USE EXTREME CAUTIONS TO AVOID ROAD CUTS FROM VIEWS IN AREA STUDY.  
name: Harold R. Zafra date: 2/16/91

FISHERIES & HYDROLOGY  
Resource CONCERNS: PLANNED SO' BUFFER OR SURF-ACE BREAK BOUNDARY TO PROTECT CLASS III, WATER QUALITY SECTION ON SW SIDE OF UNIT. DIRECTIONAL FALL + SPLIT YARD ALL V-NOTCHES.  
name: Harold R. Zafra date: 2/16/91

Place boundary at slope break on Class 2. FOS.

name: Harold R. Zafra date: 2/16/91

SOILS:  
Resource CONCERNS: Split yard E + W V-notches. Partially suspended requested to reduce soil erosion.  
name: R. Zafra date: 2/16/91

WILDLIFE:  
Resource CONCERNS: Low, moderate and high value deer winter range and high value warren habitat will be lost.  
name: Michael J. Weber date: 10/27/90

RECREATION & VISUAL:  
Resource CONCERNS:  
name: Michael J. Weber date: 10/27/90

name: Michael J. Weber date: 10/27/90

CULTURAL:  
Resource CONCERNS:  
name: Michael J. Weber date: 10/27/90

name: Michael J. Weber date: 10/27/90

Reviewed By: Michael J. Weber date: 10/27/90

title: Interdisciplinary Team Leader date: 2/18/91

James S. Brund Bugaschi

CMA-1900-05



UNIT # 129

ACRES 63

STATEMENT OF INTENT BY IDT: Split yard away from U-notch in SW portion of unit, avoid extreme hazard soils NE of unit. ROS class change from SPNM to PM and visually sensitive.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 1575  
 PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/186  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
 RX SYNOPSIS  
 Clearcut unit. Predominant plant species is mixed conifer and should be planted with Alaska-cedar to maintain species composition. Site productivity ranges from low to moderate with the average site index being 55 (Fair). Predominant plant association are mixed conifer/blackberry and mixed conifer/blackberry/skunk cabbage. Try to maintain mixture integrity in center portion of unit. It possible retain 1 map-acre for diversity.

TIMBER & LOGGING  
 SYSTEMS  
 RESOURCE CONCERNS: Unit designed for skidline yarding, both up-and downhill. Air and log suspension required to minimize disturbance to high hazard soils. Directionally fall timber away from and split yard U-notches. Directionally fall problem in places due to adjacent workings name: Blackburn R. Johnson date: 2/11/91

ROADS & ACCESS  
 RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7222. IF CLASS II STREAM CROSSING HAS FISH UTILIZED LOW GRADIENT CULVERT TO ALLOW FUR FISH PASSAGE.

FISHERIES & HYDROLOGY  
 RESOURCE CONCERNS: Split yarding unit to avoid stream erosion and loss of water quality. date: 2/10/91

SOILS  
 RESOURCE CONCERNS: yard away from stream. Potential suspension requested. date: 2/10/91

WILDLIFE  
 RESOURCE CONCERNS: Loss of moderate value marten habitat and low & moderate deer winter range. date: 2/2/91

RECREATION & VISUAL  
 RESOURCE CONCERNS: Michael T. Weber date: 10/22/90

CULTURAL  
 RESOURCE CONCERNS: date:

Reviewed By: note concern for locating adjacent tail hole adjacent workings. unit size & slope too high probability to change during field layout. date:

title: James S. Beard Bayside date: 2/18/91  
 Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 131 ACRES 36

STATEMENT OF INTENT BY IDT: keep north boundary at the type break above the stream. Provide one old log suspension over the pocket of extreme haz. soils in northern portion of unit. ROS change from SPNM to Rm, visually sensitive.

UNIT DESIGN (PLANNED)  
LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 900  
PHOTO INFO: YR 1976 FLI LN 34 STEREO PR 1076/186  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING  
UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H  
EXISTING ROAD  
PLANNED ROAD  
---

SILVICULTURE Clearcut unit. Predominant plant series are Western and Mountain Hemlock. Both series should be regenerated naturally. Site productivity ranges from low to moderate. With the average site index being 69 (fair), predominant plant associations are Western Hemlock/Blueberry and Mountain Hemlock/Blueberry-cassiope. If possible retain a snags per acre for diversity.

TIMBER & LOGGING SYSTEMS Stanton July 2/12/19  
RESOURCE CONCERNS: Unit designed at slackline yarding, both up and downhill. One end log suspension required to minimize disturbance to high hazard soils. Directionally fall timber away from stream buffer along north boundary. Lower the days and railroads may be a problem due to adjacent muskeg name: R. Johnson date: 2/16/91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY TWO TRAILHEADS SPURS FROM ROAD 7723. UTILITIES NATURAL LANDSCAPE TO SCREEN ROAD CUTS FROM VIEW IN APPROACH name: 1. 1st date: 2/18/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: MAINTAIN WITH SOE BUDGET AT SEVERE RISK TO THE CLASS II WATERSHED STREAM. DIRECTIONAL FALL TIMBER AWAY FROM STREAM CHANNEL. WHY? Pull back N.E. boundary to steep bank on Class 2 stream. VGS name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS: RESOURCE CONCERNS: Partial suspension, in road & throughout unit even due to high haz. soils. Strong partial suspension in road is central unit near name: Robert J. Weber date: 2/18/91

WILDLIFE: RESOURCE CONCERNS: Loss of high value winter habitat and muskeg & high deer winter range. name: Michael J. Weber date: 10/27/90

RECREATION & VISUAL: RESOURCE CONCERNS: name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL: RESOURCE CONCERNS: name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By: name: \_\_\_\_\_ date: \_\_\_\_\_

title: James S. Burnard Bengardski date: 2/18/91  
Interdisciplinary Team Leader



## UNIT DESIGN CARD

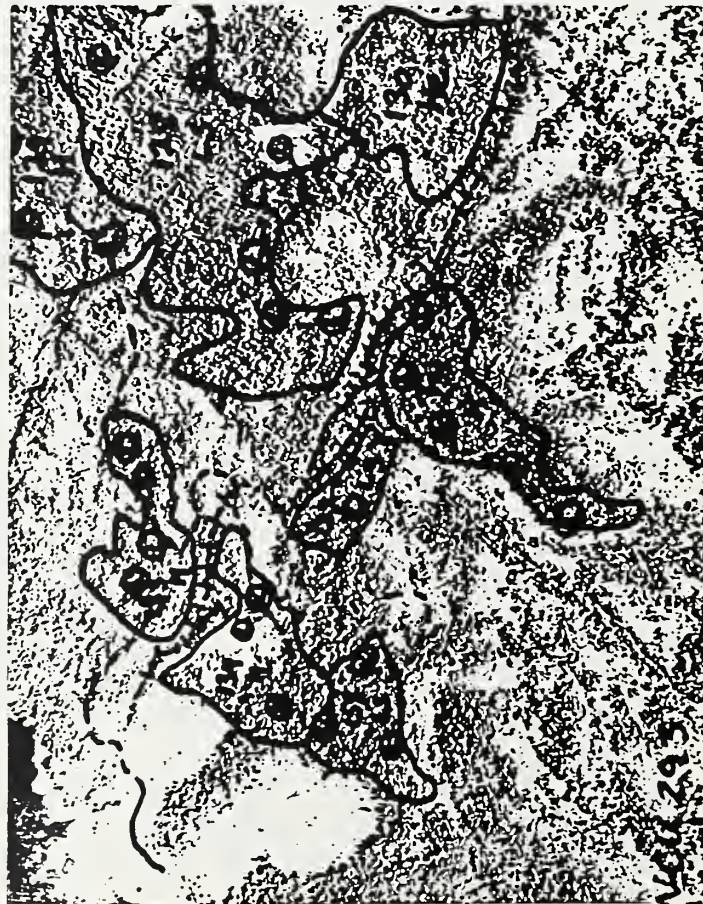
UNIT # 132 ACRES 13

STATEMENT OF INTENT BY IDT: Keep northern boundary at the slope break above stream. Avoid overstepped greasewood of the unit. Pos change from SPNM to RM and visually sensitive.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 2.5 TOT VOLUME 325PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/186

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15000

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
(305) H

EXISTING ROAD  
PLANNED ROAD  
---

SILVICULTURE  
Rx SYNOPSIS

Cleared unit. Predominant plant series is Western Hemlock and should regenerate naturally. Site productivity ranges from low to moderate with the average site index being 34 (Fair). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/Skunk cabbage. It possible retain 2 snags per acre for diversity.

Stanley Tuesday 2/12/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for upland yarding with a live skyline/flyer system. One end log suspension required to minimize disturbance to high hazard soils. Directionally fall timber away from stream buffer along north boundary. Additional landings may be needed to log unit. name: Redwood date: 2/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY A TEMPORARY SPUR FROM ROAD 7223. KEEP ROAD MINIMUM 100' FROM CLASS III STREAM.

name:

date: 2/18/91FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: POWER CLASS II, WATER QUALITY. Stream channel on north side of unit. Stream 30' buffer at each side. Boundary disturbance from timber harvest. Stream DFC 1024/50. Pull back unit boundary to slope break on class 2 stream Vgg.

name:

date:

SOILS: RESOURCE CONCERNS: patchy suspension needed to reduce soil disturbance

name: P. Albertdate: 2/7/91

## WILDLIFE:

RESOURCE CONCERNS: loss of high marten and moderate to high deer winter habitat.

name: Michael T. Weberdate: 10/27/90RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

James S. Bunsel Brynasti  
Interdisciplinary Team leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 133

ACRES 32

STATEMENT OF INTENT BY IDT: Split yard away from U-notches and provide at least 50' buffer on stream south of unit. Fos change from SPUM to RM and visually sensitive.

## UNIT DESIGN (PLANNED)

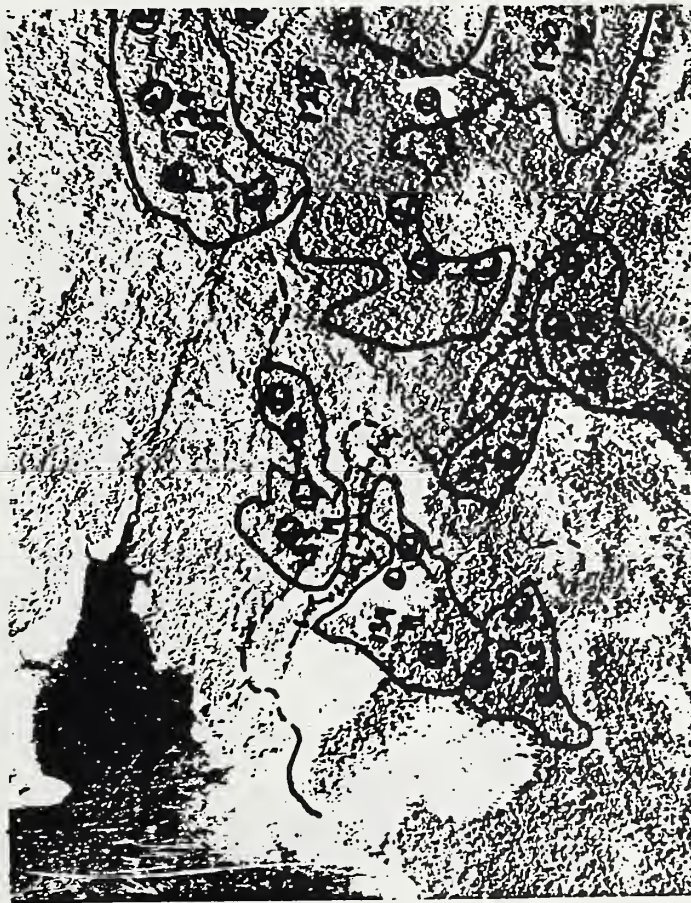
LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 416

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/186

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

clearcut unit. Predominant plant series is mixed conifer and shrub plant. Alaska cedar to mountain current species composition. Site productivity is low with the average site index being 50 (fair). Predominant plant associations are mixed Conifer/Blueberry and mixed Conifer/Blueberry/shrub Cabbage. It possible retain 2 swags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

Resource CONCERNS: Unit designed for highest yielding, both up- and downhill. Directionally fall timber away from U-notches and stream buffers along unit boundaries and within unit. Split yard U-notches in unit.

name: Pauline R. Zolnowski

date: 2/16/91

## ROADS &amp; ACCESS

Resource CONCERNS: UNIT ACCESSED BY ROAD 7722. NO CONCERNS.

## name:

FISHERIES &  
HYDROLOGY

Resource CONCERNS: Aquatic life 50 ft. Buffer is established within unit boundary. Stream channel is stable. No concerns for 10/1/90.

date: 2/18/91

Pull back unit boundary to slope break on Class 2

## name:

## Stream: Vgg

## date:

Resource CONCERNS: Ephemeral stream/ponded in south boundary needs logs directionally placed away from. No other soil concerns.

## name:

## K.A. O'Neil

## date:

2/2/91

## WILDLIFE:

Resource CONCERNS: Loss of lowland moderate value deer winter and moderate marten habitat.

## name:

Michael J. Weber

## date:

10/27/90

RECREATION &  
VISUAL:

Resource CONCERNS:

## name:

## CULTURAL:

## date:

Resource CONCERNS:

## name:

## Reviewed By:

## date:

title:

James S. Burns, Supervisor  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 134 ACRES 33

STATEMENT OF INTENT BY IDT: Split yard away from V-notch in center of unit. Keep north boundary at slope break above stream or out of extreme hazard soils in North central area. Ret change from SPUM to RM and visually sensitive.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 13 TOT VOLUME 427PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/186  
1/4 QUAD ID:PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

L

SILVICULTURE  
RX SYNOPSIS

clearcut unit. Predominant plant series are Western Hemlock and mixed conifer. The western hemlock areas should regenerate naturally while the mixed conifer areas should be planted with Alaska cedar to maintain species composition. Site productivity ranges from low to moderate with the average site index being 33 (Fair). Predominant plant associations are Western Hemlock/Blueberry and mixed conifer/Blackberry. It is possible to retain 2 snags per acre for diversity.

Stanley Tuesday 2/12/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for stacking yarding both up- and downhill. One end log suspension required to minimize disturbance to high hazard soils. Discontinuously fall timber away from stream buffers along unit boundary and away from adjacent old harvest unit. Tailfields may be a problem name: Richard R. Johnson date: 2/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESS BY TWO TEMPORARY SPURSES FROM ROAD 7223. CROSS "V" NOTCH ONLY AND TIME TO REACH THE WETTER LANDS.

name: John date: 2/18/91FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: MINIMUM 20' BUFFER TO CLASS III STREAM UNIT BOUNDARY SHOULD REMAIN AT SCAP. ACRES AND CHANNEL DFC 10/10/90

Class 2 stream in SW portion of unit. maintain min. 50' buffer. 1998

name: Michael Tweeber date: 2/16/90

## SOILS:

RESOURCE CONCERNS: split yard V-notch. Per fuel suspension needed.

name: R. celas date: 2/4/91

## WILDLIFE:

RESOURCE CONCERNS: loss of low and moderate value deer winter and high value marten habitat.

name: Michael Tweeber date: 2/27/90RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

CULTURAL: RESOURCE CONCERNS:

name:

Reviewed By: Note concerns for tail breaks and tower tie down in adjacent old harvest units and muskegs. Unit slopes on edge may change during field layout.

title:

Interdisciplinary Team Leader date: 2/8/91

CMA-1900-05



## UNIT DESIGN CARD

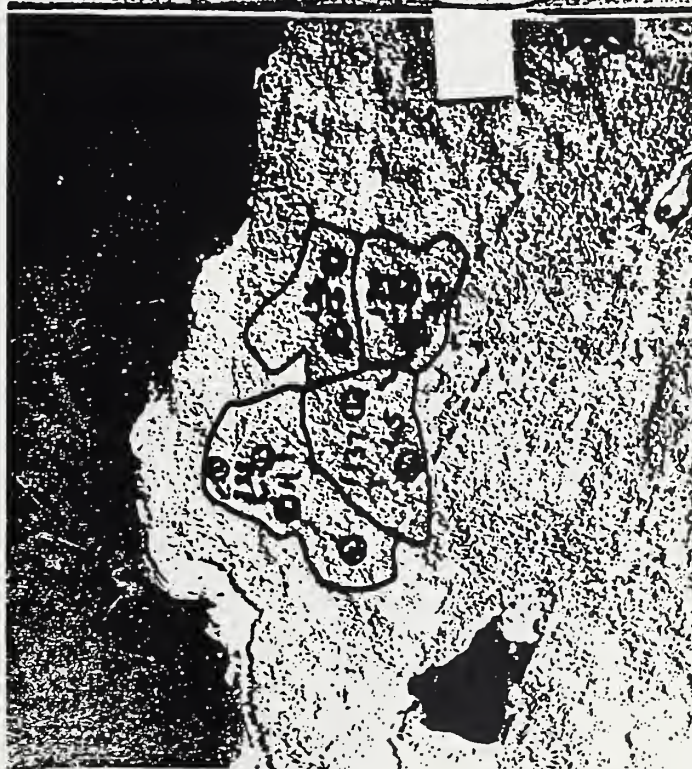
STATEMENT OF INTENT BY IDT: keep unit 500' from the beach and at least 330' from the eagle tree. POS change from SPUM to FM and visually sensitive.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 364

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/185  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
||||| BUFFER ZONE  
(L) LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
(305 H)

EXISTING ROAD  
--- PLANNED ROAD

UNIT # 136 ACRES 28

SILVICULTURE Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally and the mixed conifer areas should be planted with Alaska cedar to maintain current species composition. Site productivity ranges from low to moderate with the average site index of 32 (FAR). Predominant plant associations are western hemlock/blueberry and mixed conifer/blueberry/stunt cabbage. It is possible to retain 2 songs per acre for diversity.

TIMBER & LOGGING SYSTEMS Yarding with live skyline/flyer system.  
No other concerns noted.

name: Michael R. Zaborie date: 2/11/91

ROADS & ACCESS Road 7725H, use natural sandparks to screen road cuts from views in park state.

name: J. L. L. date: 2/18/91  
FISHERIES & HYDROLOGY NO CONCERNS - DFK 10/11/90

Trophic concerns UGS

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: No soils concerns RESOURCE CONCERNS: \_\_\_\_\_

name: R. L. L. date: 2/3/91  
WILDLIFE: Loss of moderate value deer winter habitat and high value winter habitat. Boundary pulled back 500' from beach to protect eagle tree and orange habitat.

name: Michael Traverber date: 10/27/92  
RECREATION & VISUAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed By: \_\_\_\_\_

title: Louis S. Burns Bryanaki date: 2/18/91  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 137 ACRES 32

STATEMENT OF INTENT BY IDT: Split yard away from U-notch in central portion of unit, for change from SPUM to RM and visually sensitive.

UNIT DESIGN (PLANNED)  
LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 800  
PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/185  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15040

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

cleared unit. Predominant plant series is Western Hemlock and Rhododendron naturally. Site productivity ranges from low to high with an average site index of 85 (fair). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/shield-fern. It is possible to retain a snags for more diversity.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for uphull yarding with live skyline system. One end log suspension required to minimize disturbance to high hazard soils. Directionally fall timber away from U-notches and split yard these numbers.

name: Reinold R. Jagers date: 2/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7725 AND A TEMPORARY SPUR FROM ROAD 77254. USE NATURAL ANCHORS TO SCROON AND CUTS FROM VIEWS IN ROAD STRAIT.

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: DIRECTIONAL FISH TRAP, SPLIT YARDING IN U-NOTCHES TO PREVENT CHURNING AND UNDER QUALITY OF WATER. 10/14/90. No fish concerns 1985.

name: \_\_\_\_\_ date: \_\_\_\_\_

## SOILS:

RESOURCE CONCERNS: Partial suspension requested to avoid soil disturbance in center slopes.

name: E. H. West date: 2/7/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer winter and low value marten habitat.

name: Michael J. Weber date: 10/27/90RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

## CULTURAL:

RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

## Reviewed By:

title: \_\_\_\_\_ date: 2/18/91

James S. Bernal  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 138 ACRES 44

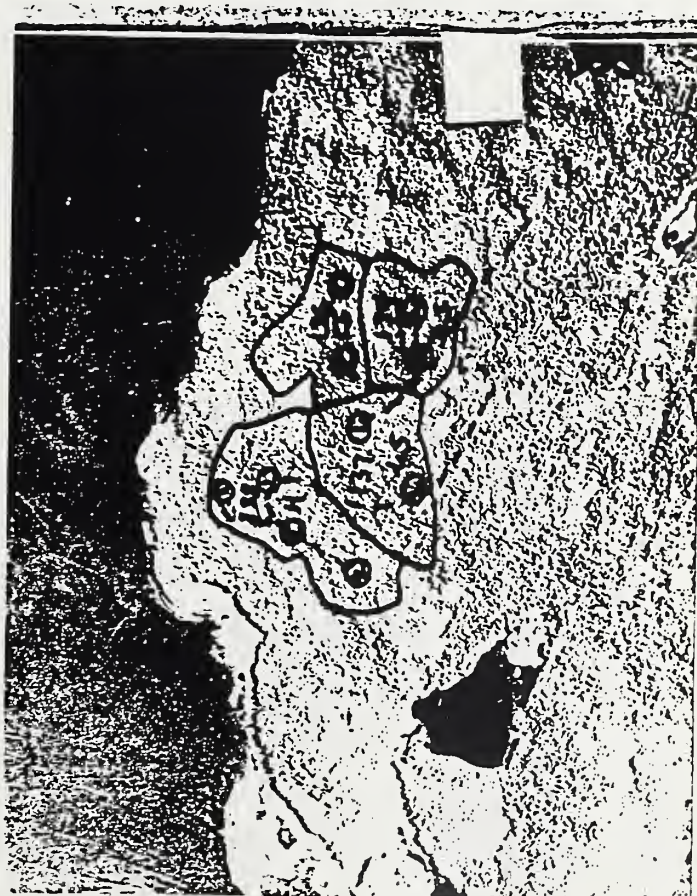
STATEMENT OF INTENT BY IDT: keep unit at least 500' from the beach and 300' from the eagle tree. ROS change from SPNM/SPM to RM and visually sensitive.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 572PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/185

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
 Rx SYNOPSIS  
 cleared unit. Predominant plant series are Western Hemlock and mixed conifer. Western Hemlock areas should regenerate naturally while the mixed conifer areas should be planted with Alaska cedar to maintain current species composition. Site productivity ranges from low to high with the average site index being to (fair). Predominant plant associations are Western Hemlock/Blackberry and mixed conifer/Blackberry/steep cabbage. If possible retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: Unit designed for high level logging, both up and down hill. Additional landings may be needed to yard units. On flatter areas, locate railroads high enough to try and give 100' log suspension. In these areas, yard from back to front yarding across dam. Timber to pore soil. name: Directional fall and split yard techniques. RRZ date: 2/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: Unit accessed by two temporary spurs from road 7225. Use natural landforms to screen road cuts from views in pore stream.

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: Dike around the salt lake is an AWT v-dorrens within unit. Planter entrance. Dike top 10' high.

no fish concerns. 1/8/91

name:

date:

## SOILS:

RESOURCE CONCERNS: Maintain tension in left line to reduce log drag more flat ground to reduce soil disturbance.

name:

date:

## WILDLIFE:

RESOURCE CONCERNS: Loss of mature and high value downy and low blue marten habitat. Boundary protects beach fringe and eagle tree.

name:

date:

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

## Reviewed By:

title:

Interdisciplinary Team Leader

date: 1/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 139 ACRES 29

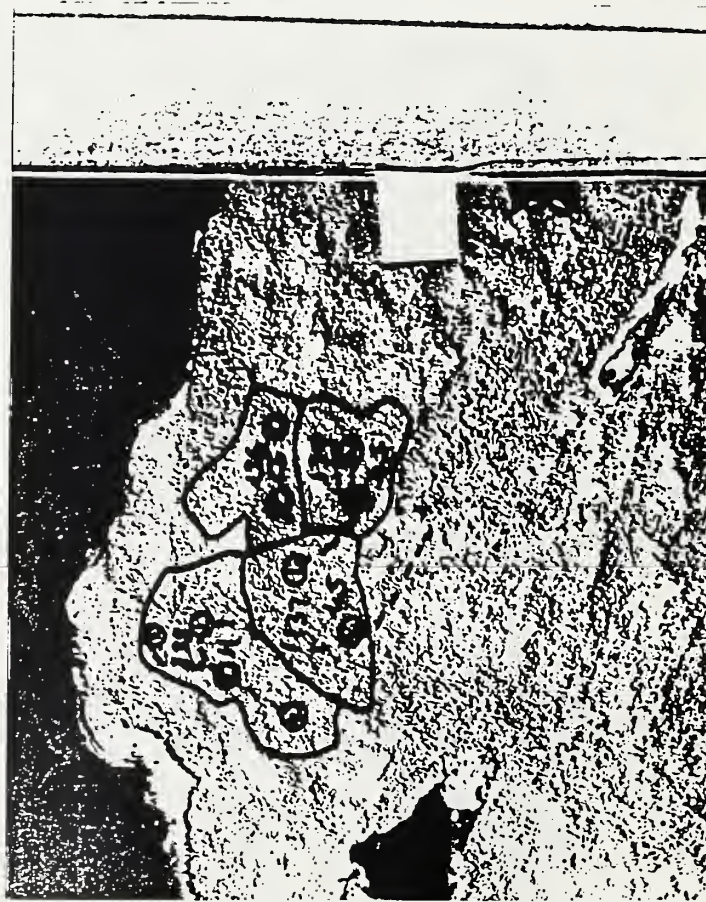
STATEMENT OF INTENT BY IDT: Split yard away from V-notch  
in SW corner of unit. ROS change from SPNM to  
RM and visually sensitive.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 725PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/185

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## Rx SYNOPSIS

Cleared unit. Predominant plant series are Western  
Hemlock and mixed conifer. Western Hemlock areas should  
resprout naturally while mixed conifer areas should be  
planted with Alaska-cedars to maintain current species composition. Site  
productivity ranges from low to high. Average site index is 66 (fair). Predominant  
plant associations are Western Hemlock/Blackberry and mixed conifer/Blackberry.  
Shrub Cabbage. Try to maintain muskeg integrity in northern portion of unit.  
possible retain 2 snags per acre for diversity.

Station Tuesday 3/12/91

## TIMBER &amp; LOGGING

## SYSTEMS

Directionally fall away from and split yard V-notches.

name: Richard R. Zaboracdate: 2/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD  
 77254 AND A TEMPORARY SAW CUT OFF OF IT

name:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

NO CONCERNS. See 10/16/90  
 no fish concerns oge.

date: 2/18/91

name:

## SOILS:

RESOURCE CONCERNS:

no soils concerns

date:

name: F. Weber

## WILDLIFE:

RESOURCE CONCERNS:

loss of low value deer  
 winter and marten habitat.

date: 6/1/91name: Michael J. WeberRECREATION &  
VISUAL:

RESOURCE CONCERNS:

date: 10/27/90

name:

## CULTURAL:

RESOURCE CONCERNS:

date:

name:

Reviewed By:

James S. Burns  
 Interdisciplinary Team Leader

title:

date: 3/18/91

GMA-1900-05







## UNIT DESIGN CARD

UNIT # 141

ACRES 7

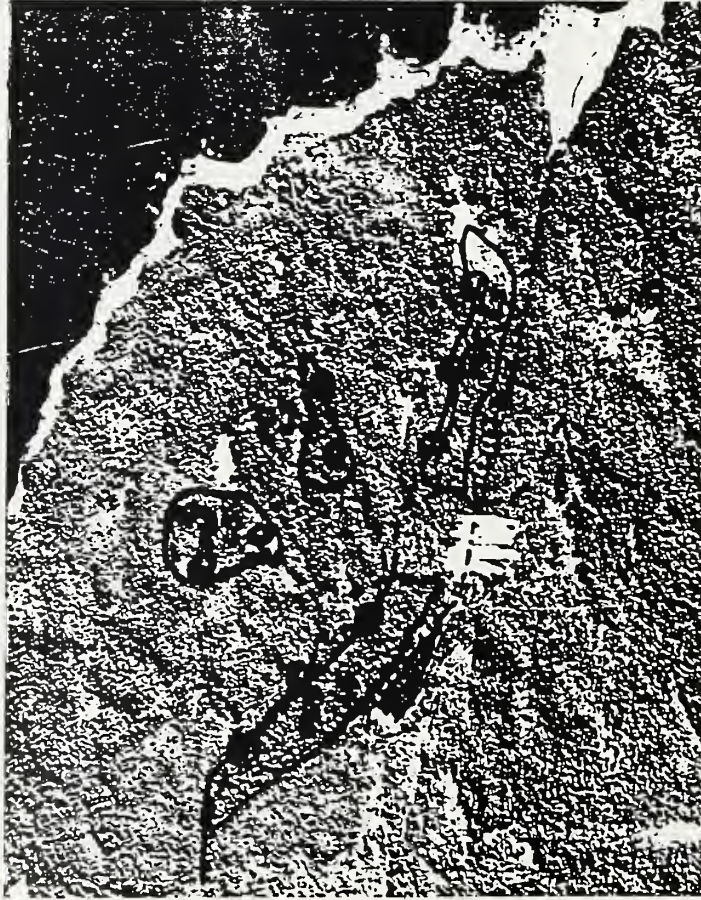
STATEMENT OF INTENT BY IDT: Keep north boundary at the slope break or at least 50' from stream, PBS change from SPNM to PM and visually sensitive.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 91PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/294

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15340

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 .... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (D) LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
 RX SYNOPSIS  
 Clearcut unit. Predominant plant series is Western Hemlock and should regenerate naturally. Site productivity is moderate with an average site index of 80 (var). Predominant plant associations are Western Hemlock/Blackberry and Western Hemlock/Blueberry/Skunk Cabbage. It is possible to retain a snag per acre for diversity.

TIMBER & LOGGING  
 SYSTEMS  
 Directionally fall timber away from stream buffer along north boundary.  
 name: Richard R. Zaleski date: 2/16/91  
 RESOURCE CONCERNS: Unit designed for uphill yarding with live skyline/flyer system

ROADS & ACCESS  
 RESOURCE CONCERNS: UNIT IS ACCESSED BY A TEMPORARY SPUR ROAD R100 7225. KEEP ROAD MINIMUM OF 100' FROM V-NATCH.

FISHERIES & HYDROLOGY  
 name: A. Lusk date: 2/18/91  
 RESOURCE CONCERNS: maintain 50' buffer on south side of unit; no parent channel head water quality. Ditch 140'.

maintain 50' min. buffer on stream. 498

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: \_\_\_\_\_ RESOURCE CONCERNS: No Soils Concerns

name: R. Lusk date: 2/7/91  
 WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: Loss of high value marker and moderate value deer winter habitat.

name: Michael Tuleba date: 10/27/90  
 RECREATION & VISUAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
 CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
 Reviewed By: \_\_\_\_\_

title: James S. Burned Buckskin date: 2/18/91  
 Interdisciplinary Team Leader

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 143 ACRES 31

STATEMENT OF INTENT BY IDT: keep south eastern boundary at least 100' from the Class I lake and stream. PDS change from SPNM to RM.

UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 403

PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/294

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 UNIT BOUNDARY, NUMBER,  
H + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

**SILVICULTURE**  
**Rx SYNOPSIS**  
95 (40%)  
Predominant plant series is Western Hemlock which should regenerate naturally. Site productivity ranges from low to high with an average site index of 95 (40%)  
Predominant thin within 20-25 years. Predominant plant associations are Western Hemlock/Blackberry/Slack-term and Western Hemlock/Blueberry. If possible retain a snags per acre for diversity.

Stantys Tuley 2/12/91

## TIMBER & LOGGING SYSTEMS

TIMBER & LOGGING SYSTEMS	<p>lay suspension required to minimize disturbance to high hazard soils. Permitted for blind leads. Unit may become smaller at time of lay-out operation if they fall through away from stream buffer along south boundary.</p> <p><i>R. S. Salazar</i> date: 2/11/91</p>
--------------------------	---

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7725, BOUL GORADE WITH LAND FOREMAN TO REDUCE SITS AND FILL.

name:  date: 2/18/01

FISHERIES & HYDROLOGY	RESOURCE CONCERNS: abundance in 'BUFFED' ALICE LAKE AND THE LAKE - OUTLET SIMILAR CLASS I, AUSTRIAN - CHADRON
SINCE DFR	W/29/50.

Maintain 100° min. buffer along lake and clear stream. 1985.

name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS:	RESOURCE CONCERNS:
	<i>Prohibit suspension in line to sheep slopes</i>

name: *E. A. J. L.* date: *2/7/91*

WILDLIFE:	RESOURCE CONCERNS:
marten and deer winter habitat.	grass and high value

name: Michael J. Weber  
date: 10/27/40

RECREATION & VISUAL:	RESOURCE CONCERNS:
----------------------	--------------------

name: \_\_\_\_\_  
date: \_\_\_\_\_

CULTURAL:	RESOURCE CONCERNS:
-----------	--------------------

name: \_\_\_\_\_  
date: \_\_\_\_\_

Reviewed By: Note concern for black-leach. High potential limit size and shape would change during 200 percent.

full of payoffs.  
 James S. Burnand Buepate  
 Interdisciplinary Team leader  
 date: 2/18/91



## UNIT DESIGN CARD

UNIT # 144

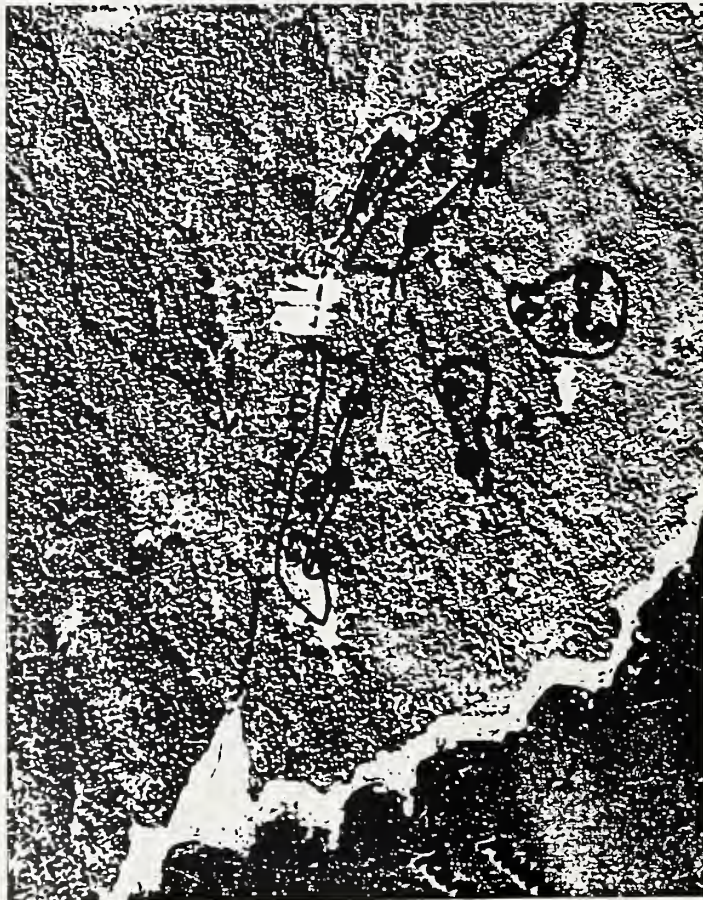
ACRES 16

STATEMENT OF INTENT BY IDT: Provide a 100' buffer along the Class I stream. Field review by hydrologist needed at time of layout. Split yard on V-notch through center of unit. ROS change from SPUM to PM. Reduce risk of soil disturbance through partial suspension.

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 400

PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/294  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

clearest unit. Predominant plant series is Western Hemlock which should regenerate naturally. Site productivity ranges from low to high with an average site index of 90 (Fair). Predominant thin within 20-25 years. Predominant plant associations are Western Hemlock/Blackberry and Western Hemlock/Blackberry. If possible retain a snag per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for uphill yarding with live skyline/flyer systems. One and log suspension required to minimize disturbance to high hazard soils. Potential for blind lands unit may become smaller at time of layout. Locally all timber away from stream buffer along south boundary. name: Redwood date: 2/16/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 77251. TRY TO KEEP ROAD ON SOUTH SIDE OF RIDGE. THIS IS A DOMINANT PIECE OF TOPOGRAPHY AND WILL REQUIRE A SPECIFIC ROAD. name: Redwood date: 2/16/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: MAINTAIN 100' BUFFER TO CLASS I, ANADROMOUS HABITAT. MAINTAIN 100' BUFFER TO LOCATE GROUNDWATER ALONG. GROUNDWATER. DATE: 2/16/91  
Maintain 100' min. buffer along Class I stream. WBS.

name:

date:

## SOILS:

RESOURCE CONCERNS: Potential suspension prepared to reduce soil disturbance

name: Robertdate: 2/7/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer winter and marten habitat.

name: Michael J. Weberdate: 10/27/90RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

James S. Burns Bengaschi  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 145 ACRES 33

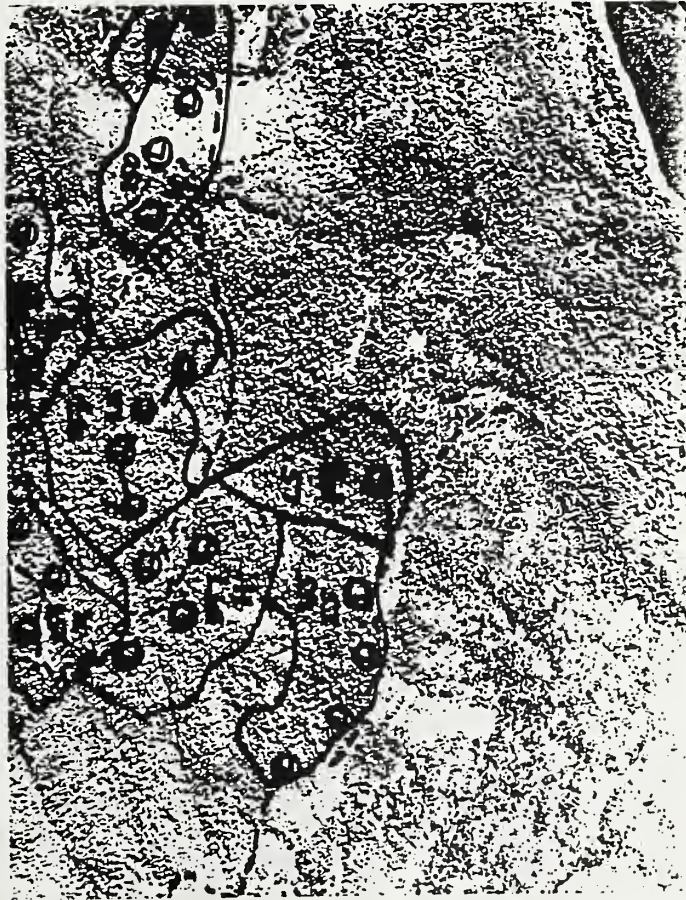
STATEMENT OF INTENT BY IDT: Boundaries adjusted to avoid blind leads and oversteepened slopes. For change from SPNM to RM.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 825PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 576/293

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD  
305  
H

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE clearcut unit. Predominant plant series are western and Mountain Hemlock, both should regenerate naturally. Site productivity ranges from low to moderate with an average site index of 31 (Fair). Predominant plant associations are western Hemlock/Blueberry and Mountain Hemlock/Blueberry-cassiope. If possible retain 2 snags per acre for diversity.

TIMBER & LOGGING SYSTEMS yarding with live skyline/flyer system. No other resource concerns noted.

name: R. Zylinski date: 2/16/91

ROADS &amp; ACCESS RESOURCE CONCERNS: UNIT ACQUIRED BY A TRANSFER FROM ROAD 7724. BECAUSE OF ROADSTOP ROAD, USE APPROPRIATE LANDFORMS TO SHOW ROAD CUTS FROM VIEW IN PEARL STREET.

name: Michael J. Weber date: 2/18/91

FISHERIES &amp; HYDROLOGY RESOURCE CONCERNS: NO CONCERNS OFR 6/24/90

name: Michael J. Weber date: 2/13/91SOILS: NO SOILS CONCERNS RESOURCE CONCERNS:name: Michael J. Weber date: 2/13/91WILDLIFE: loss of mature tree habitat, deer winter and high value marten habitat, RESOURCE CONCERNS:name: Michael J. Weber date: 2/27/90RECREATION & VISUAL: loss of mature tree habitat, RESOURCE CONCERNS:name: Michael J. Weber date: 2/27/90CULTURAL: loss of mature tree habitat, RESOURCE CONCERNS:name: Michael J. Weber date: 2/27/90Reviewed By: Michael J. Weber date: 2/18/91title: James S. Burns Interdisciplinary Team Leader date: 2/18/91

CNA-1900-05



## UNIT DESIGN CARD

UNIT # 149 ACRES 22

STATEMENT OF INTENT BY IDT: Split yard Unstables and maintain 100' buffer along Class I stream and 500' buffer along beach. POS change from SPNMI, SPN to RM. Visually sensitive.

UNIT DESIGN (PLANNED)  
LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 550  
PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/293  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15,140



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## Rx SYNOPSIS

clearest unit. Predominant plant series is Western Hemlock, which should regenerate naturally. Side productivity ranges from low to moderate with an average site index of 70 (Fair). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/skunk cabbage. If possible retain 2 snags per acre for diversity.

Station: Tuley, 2/12/91  
TIMBER & LOGGING SYSTEMS: Unit designed for highhead logging, both up and downhill. Additional landings may be needed to yard unit. Directionally fall away from Unstables and stream by 15 ft. in and along unit boundaries. Split yard Unstables possible. Windbreaks, unit may become smaller at time of layout.  
name: Michael J. Weber date: 2/16/91

ROADS & ACCESS: UNIT ACCESSED BY ROAD 77221. KEEP ROAD MINIMUM 100' FROM CLASS III STREAM. TWO TEMPORARY SPURS WILL BE REQUIRED, ONE CROSSING THE CLASS III STREAM, USE CULVERT.  
name: Michael J. Weber date: 2/16/91

FISHERIES & HYDROLOGY: Side to Class I stream, direction of flow is from stream to unit. DFC 1/24/90. BUTTER CREEK IS STREAM THAT IS WITHIN UNIT, 100' DFC 1/24/90.  
name: Michael J. Weber date: 2/16/91

name:

date:

SOILS:

RESOURCE CONCERNS:

name:

date:

WILDLIFE:

RESOURCE CONCERNS: Loss of high value marten and deer winter range. Boundary pulled back 500' from beach.

name:

date:

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By: Unit concerns for potential blackleg, and high probability unit size on slope may change.

title:

Interdisciplinary Team Leader

date:

2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 150 ACRES 47

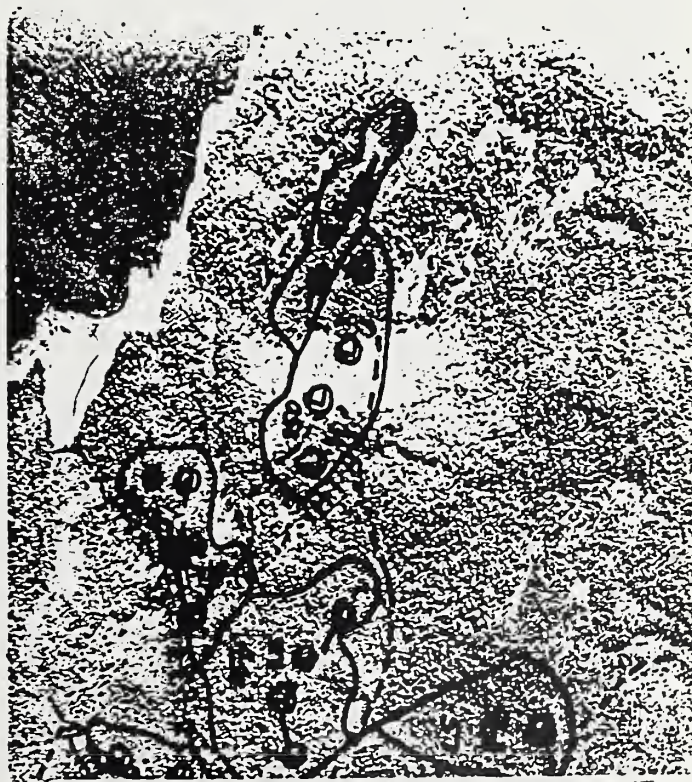
STATEMENT OF INTENT BY IDT: Keep SW boundary at the slope break above the stream, LOS change from SPUM to RM and visually sensitive.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 611PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/293

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
---  
PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Cleared unit. Predominant plant series is Western Hemlock which should regenerate naturally. Site productivity ranges from low to moderate with an average site index of 78 (Farr). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/Skunk Cabbage. It is possible to retain 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for highland logging both up and downhill. Directionally fall timber away from stream buffer along southern boundary. Tailfields may be a problem in places due to adjacent muskegs.

name: Richard R. Zelenydate: 2/16/91

ROADS & ACCESS RESOURCE CONCERNS: UNIT IS ACCESSIBLE BY ROADS 7722 AND 7721. THERE ADDITIONAL TEMPORARY SITES WILL BE NEEDED.

name:

date:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: Private water catchment with 50' buffer on south side of unit. SW side of unit. DATE 10/24/90

name:

date:

## SOILS:

RESOURCE CONCERNS:

name:

date:

## WILDLIFE:

RESOURCE CONCERNS: Loss of mid-level and high value deer winter and high value marten habitat.

name: Michael J. Weberdate: 10/27/90RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By: Note concerns for better good tail fields in adjacent muskegs. Unit boundary, slopes a size, may change during log yard.

title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05





## UNIT DESIGN CARD

UNIT # 152 ACRES 38

STATEMENT OF INTENT BY IDT: Split yard away from V-notch in NE corner. Keep NE boundary at slope break above V-notch and provide 50' buffer on stream along SW boundary. ROS change from SPW to SPW to Rm and visually sensitive. Unit stays SW from the beach.

## UNIT DESIGN (PLANNED)

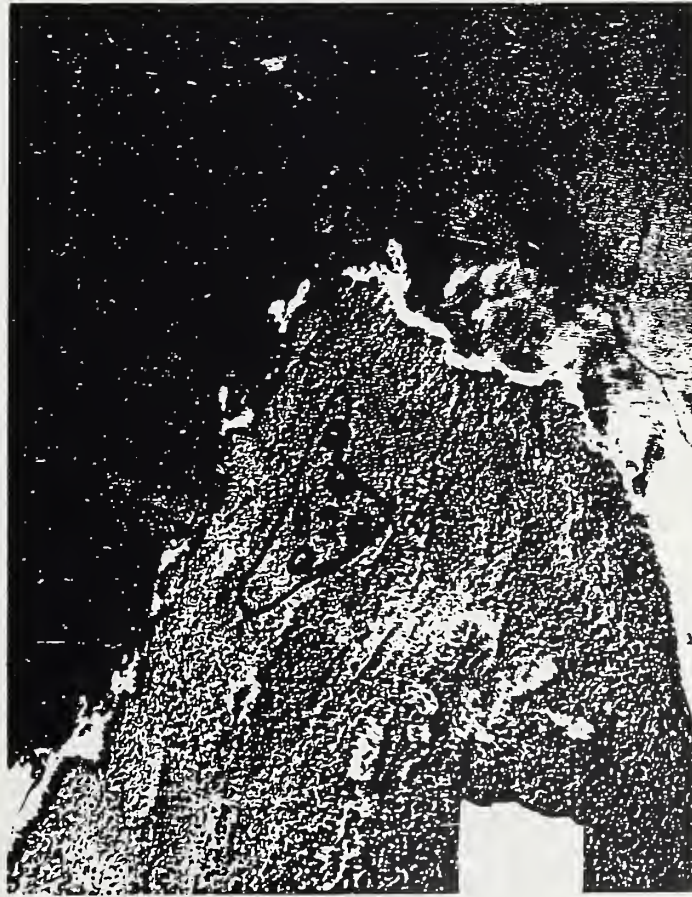
LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 494

PHOTO INFO: YR 1976 FLT LN 36 STEREO PR 1176/86

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15000



## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (D) LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
 (305 H)

EXISTING ROAD  
 PLANNED ROAD  
 ---

SILVICULTURE  
 Rx SYNOPSIS  
 Clearcut unit. Predominant plant species is Western Hemlock which should regenerate naturally. Site productivity ranges from low to moderate with an average site index of 80 (Fair). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/Blank Cabbage. If possible retain a snag per acre for diversity.

TIMBER & LOGGING  
 SYSTEMS  
 Directionally fall timber away from stream buffer and V-notches along unit boundaries.

RESOURCE CONCERNS: Unit designed for split yarding with live skyline/flyer systems.

name: Roland K. Zalavski

date: 2/16/91

ROADS & ACCESS  
 7722 AND A TEMPORARY SPUR.  
 RESOURCE CONCERNS: UNIT ACCESSED BY ROAD

name:

date: 2/16/91

FISHERIES & HYDROLOGY

RESOURCE CONCERNS: WITHIN 50' BUFFER OF SLOPE BUCK ARROWHEAD AREA SOME DRAINAGE ON SW SIDE OF UNIT TO PROTECT CATCHMENT HAS WATER QUALITY. DFR 10/24/85.

name:

date:

SOILS:

RESOURCE CONCERNS:

name:

date:

WILDLIFE:  
 Resource CONCERNS: Loss of moderate value deer winter range and high value marten habitat. Boundary pulled back to protect beach fringe and eagle trees.

name: Michael J. Weber

date: 10/27/90

RECREATION & VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

James S. Burns Bayanaki  
 Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

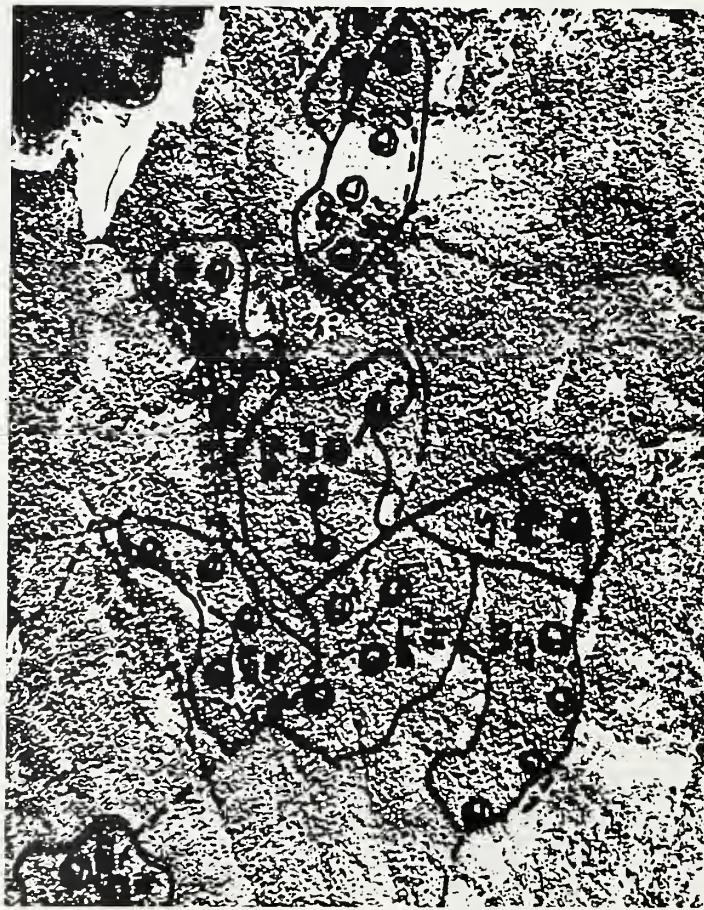
UNIT # 153 ACRES 6.2

STATEMENT OF INTENT BY IDT: Provide at least 50' buffer on Class III stream between Unit 154 and 153, split yardway from V-notch between Unit 147 and 153 and patch of extreme hazard soils in west central portion of the unit. ROS change from spNM to Rm and visually sensitive. Provide partial suspension

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 806  
UNIT DESIGN (PLANNED) To minimize soils risk

PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/293  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15340



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305  
H

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS  
Clearcut unit. Predominant plant series is Western Hemlock which should regenerate naturally. Site productivity is moderate with an average site index of 80 (Farr). Predominant plant associations are Western Hemlock/Blueberry and Western Hemlock/Blueberry/Stunk cabbage. If possible retain 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS  
End log suspension required to minimize disturbance to high hazard soils. Directionally fall timber away from V-notches and stream buffers in light and along unit boundary. Split yard V-notches in unit. name: Richard A. Zelenko date: 2/16/91

ROADS & ACCESS  
RESOURCE CONCERNS: UNIT ACCESSED BY A TEMPORARY SPUR FROM ROAD 7722.

name: A. Cant date: 2/18/91  
FISHERIES & HYDROLOGY  
RESOURCE CONCERNS: MINIMIZE SO' BUFFER TO CLASS III WATER QUALITY STREAM ON NW SIDE OF UNIT. DIRECTLY ADJ. SPLIT YARD AWAY FROM V-NOTCH WITHIN UNIT. DFR 10/24/90.

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: \_\_\_\_\_  
RESOURCE CONCERNS: good potential to improve soil quality in w/ly of unit due to overfall.

name: Michael J. Weber date: 11/27/90  
WILDLIFE: \_\_\_\_\_  
RESOURCE CONCERNS: loss of high value Marten habitat and moderate high value deer winter range.

name: Michael J. Weber date: 11/27/90  
RECREATION & VISUAL: \_\_\_\_\_  
RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: \_\_\_\_\_  
RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed By: \_\_\_\_\_

title: John S. Burns date: 2/18/91  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 154 ACRES 28

STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils NW of unit and provide 50' buffer on Class III stream along SE boundary. Directionally fall timber away from stream. Pos change from SPN to RM and visually sensitive.

UNIT DESIGN (PLANNED)  
LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 364  
PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/293  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1" = 150' 40"

## LEGEND

--- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
--- BUFFER ZONE  
--- LANDING

305 H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS  
cleared unit. Predominant plant species is western Hemlock which should regenerate naturally. Site productivity ranges from low to moderate with an average site index of 80 (Fair). Predominant plant associations are western Hemlock/Blueberry and Western Hemlock/Blackberry/Slunk cabbage. If possible retain 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS  
jacking, both up-and-downhill. Additional landings may be needed to yard unit. Directionally fall timber away from stream buffers along north and south boundaries.

ROADS & ACCESS  
name: Redford R. Zuberle date: 2/16/91  
ROADS: ROAD CUTS A FILES TO A MINIMUM. POSS. BE LOCATION OF A ROCK PIT.

FISHERIES & HYDROLOGY  
name: Redford R. Zuberle date: 2/18/91  
RESOURCE CONCERNS: INTERFERE 50' BUFFER ALONG CLASS II STREAM. SE SIDE OF UNIT, INTERFERE 50' BUFFER ON SOUTH V-MOUNTAIN ALONG NW SIDE. DIRECTIONALLY FALL TIMBER AWAY FROM STREAMS.

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: \_\_\_\_\_  
RESOURCE CONCERNS: \_\_\_\_\_

name: Redford R. Zuberle date: 2/18/91  
WILDLIFE: \_\_\_\_\_  
RESOURCE CONCERNS: LOSS OF HIGH VALUE WILDLIFE HABITAT AND LOW VALUE DEER WINTER RANGE.

name: Michael J. Weber date: 4/27/92  
RECREATION & VISUAL: \_\_\_\_\_  
RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: \_\_\_\_\_  
RESOURCE CONCERNS: \_\_\_\_\_

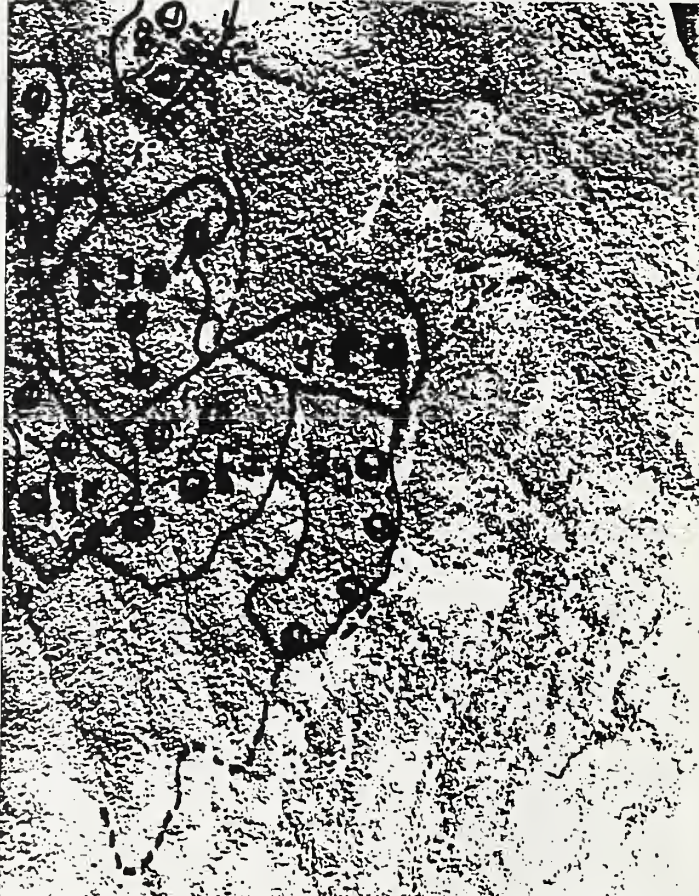
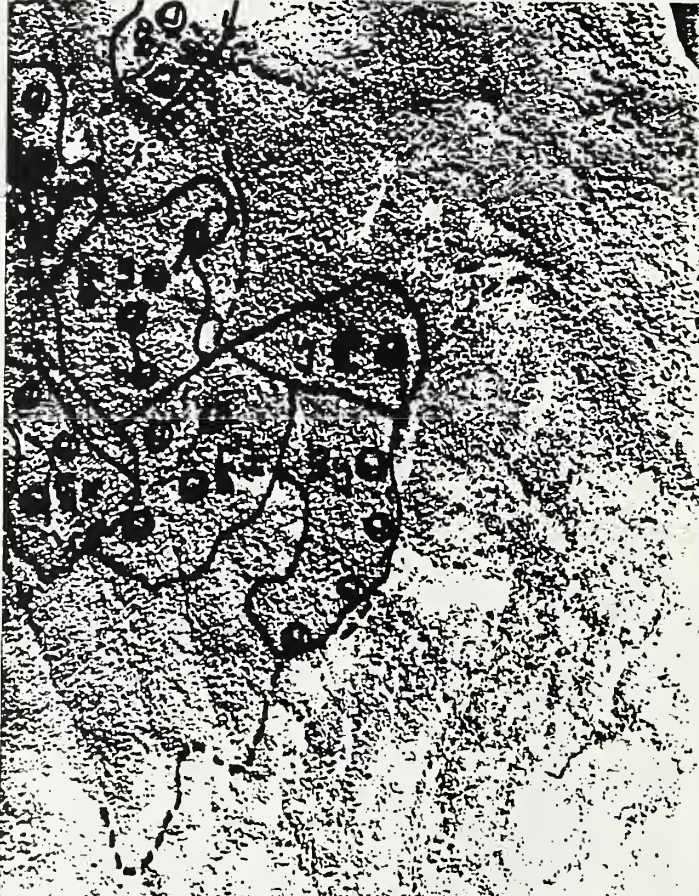
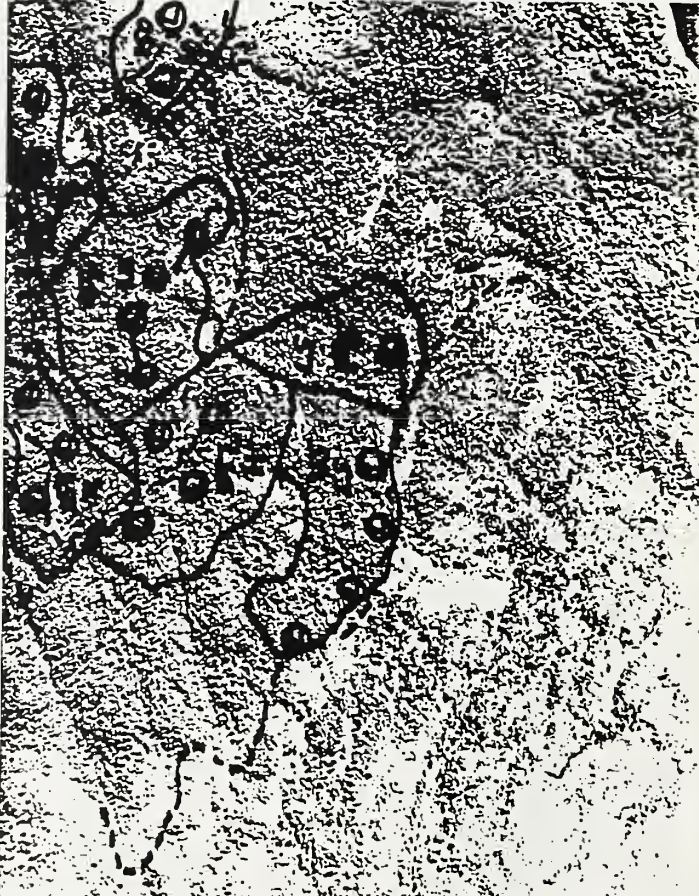
name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed By: \_\_\_\_\_

title: \_\_\_\_\_ date: 2/18/91  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: split yard away from V-notch in center of unit. ROS change from SPN to Run and Visually sensitive. One end lay suspension to protect Wet soils over compact fill.		UNIT # 155		ACRES 46	
LOG SYSTEM <u>LS</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>1150</u>		SILVICULTURE clearcut unit. Predominant plant series is Mountain Hemlock which should regenerate naturally. Site productivity ranges from low to moderate with an average site index of 50 (fair). Predominant plant associations are Mountain Hemlock/Blueberry-Cassiope and Mountain Hemlock/Blueberry-Copper Bush. If possible retain a snag per acre for diversity.			
PHOTO INFO: YR <u>1976</u> FLT LN <u>35</u> STEREO PR <u>374/293</u>		TIMBER & LOGGING SYSTEMS <u>log suspension required to minimize disturbance to high hazard soils.</u>			
1/4 QUAD ID: <u>PLANNED (ORTHO PHOTO)</u> SCALE: <u>1:15840</u>		name: <u>Richard R. Zubrick</u> date: <u>2/16/91</u>			
		ROADS & ACCESS <u>7724. KEEP ROAD ABOVE BECOME WATERS POSSIBLE EXCAVATION.</u>			
		name: <u>Richard R. Zubrick</u> date: <u>2/16/91</u>			
		FISHERIES & HYDROLOGY <u>No concerns</u> date: <u>2/16/91</u>			
		SOILS: <u>Forest along trail</u> date: <u>2/16/91</u>			
		name: <u>Richard R. Zubrick</u> date: <u>2/16/91</u>			
		name: <u>Richard R. Zubrick</u> date: <u>2/16/91</u>			
		WILDLIFE: <u>loss of low and moderate deer winter range and winter habitat.</u> date: <u>2/16/91</u>			
		name: <u>Michael J. Weber</u> date: <u>2/16/91</u>			
		RECREATION & VISUAL: <u>No concerns</u> date: <u>2/16/91</u>			
		name: <u>Michael J. Weber</u> date: <u>2/16/91</u>			
		name: <u>Michael J. Weber</u> date: <u>2/16/91</u>			
		CULTURAL: <u>No concerns</u> date: <u>2/16/91</u>			
		name: <u>Michael J. Weber</u> date: <u>2/16/91</u>			
		Reviewed By: <u>James S. Burns</u> date: <u>2/16/91</u>			
		title: <u>Interdisciplinary Team Leader</u> date: <u>2/16/91</u>			


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## UNIT DESIGN CARD

UNIT # 157

ACRES 24

STATEMENT OF INTENT BY IDT: Keep NW boundary at the slope break above V-notch. Eos change from SPUM to RM and visually sensitive.		SILVICULTURE Rx SYNOPSIS clearcut unit. predominant plant species is western hemlock which should regenerate naturally. site productivity ranges from low to moderate. with an average site index of 77 (Farr). predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/skunk cabbage. If possible retain 2 snags per acre for diversity.	
UNIT DESIGN (PLANNED) LOG SYSTEM <u>H</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>600</u> PHOTO INFO: YR <u>1976</u> FLT LN <u>35</u> STEREO PR <u>376/293</u> 1/4 QUAD ID: _____		TIMBER & LOGGING SYSTEMS RESOURCE CONCERNS: Unit designed for highgrade logging, both up and downhill. Additional landings may be needed to log units. Keep northwest boundary at slope break of V-notch, directionally fall timber away from this notch. name: <u>Richard R. Johnson</u> date: <u>2/16/91</u>	
PLANNED (ORTHO PHOTO) SCALE: <u>1:15840</u>		ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7722. A short temporary spur will be added to reach the north landing. name: _____ date: <u>2/18/91</u>	
		FISHERIES & HYDROLOGY RESOURCE CONCERNS: NO CONCERNS DFC w/4/91. name: _____ date: <u>2/18/91</u>	
		SOILS RESOURCE CONCERNS: name: _____ date: _____	
		WILDLIFE RESOURCE CONCERNS: loss of highvalue marten habitat and low value deer-winter range. name: <u>Michael J. Weber</u> date: <u>2/27/90</u>	
		RECREATION & VISUAL RESOURCE CONCERNS: name: _____ date: _____	
		CULTURAL RESOURCE CONCERNS: name: _____ date: _____	
LEGEND --- CLASS I STREAM --- CLASS II STREAM --- CLASS III STREAM       BUFFER ZONE ① LANDING 305 H UNIT BOUNDARY, NUMBER, + LOGGING METHOD --- EXISTING ROAD --- PLANNED ROAD		Reviewed By: _____ title: <u>James S. Burned Bugnaski</u> date: <u>2/18/91</u> Interdisciplinary Team Leader	

CMA-1900-05



UNIT # 158 ACRES 22

STATEMENT OF INTENT BY IDT: keep eastern boundary at the V-notch and split yard away from V-notch in center of unit. ROS change from SPNM to RM and visually sensitive. One end log suspension to minimize soil disturbance.

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 286  
 PHOTO INFO: YR 1977 FLT LN 34 STEREO PR 1076/186  
 1/4 QUAD ID: 187

PLANNED (ORTHO PHOTO) SCALE: 1:15840



LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING  
 UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
 305 H  
 EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
 RX SYNOPSIS  
 Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally while mixed conifer areas should be planted with Alaska-cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 27 (Fair). Predominant plant associations are western hemlock/Blackberry and mixed conifer/Blackberry. Unit is adjacent to old harvest unit. It is possible to return a snags reserve for diversity.

TIMBER & LOGGING  
 SYSTEMS  
 Yarding with live skyline/flyer system. One end log suspension required to minimize disturbance to sensitive soils. Directionally fall timber away from and split yard V-notches. Tailholds may be a problem due to adjacent old harvest unit.

ROADS & ACCESS  
 name: Redhead date: 2/16/91  
 RESOURCE CONCERNS: UNIT ACCESSED BY TWO TEMPORARY SPURS FROM ROAD 7723. USE NATURAL LANDFARMS TO SCREEN ROAD CUTS FROM VIEWS IN APPLETON CREEK.

FISHERIES & HYDROLOGY  
 name: Michael Tweber date: 2/18/91  
 RESOURCE CONCERNS: DIRECTIONAL FELL AWAY FROM V-NOTCHES. SPLIT YARDING. DUE 2/24/90. MINIMUM CHST BOUNDARY AT SLOPE BOUNDARY TO V-NOTCH.

name: R. West date: 2/18/91  
 SOILS: partial suspension req'd to reduce soil disturbance.  
 name: R. West date: 2/18/91  
 WILDLIFE: loss of moderate value  
 name: Michael Tweber date: 2/27/90  
 RECREATION & VISUAL: loss of moderate value

name: Michael Tweber date: 2/27/90  
 CULTURAL: loss of moderate value

name: Michael Tweber date: 2/27/90  
 CULTURAL: loss of moderate value

name: Michael Tweber date: 2/27/90  
 CULTURAL: loss of moderate value

name: Michael Tweber date: 2/27/90  
 CULTURAL: loss of moderate value

name: Michael Tweber date: 2/27/90  
 CULTURAL: loss of moderate value

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 CULTURAL: loss of moderate value

name: Michael Tweber date: 2/27/90  
 CULTURAL: loss of moderate value



# Alternatives 3, 4

## UNIT DESIGN CARD

UNIT # 158

Total ACRES 22

STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to recreation and visuals. Keep eastern boundary air V-notch and split yard V-notches in unit.

### UNIT DESIGN (PLANNED)

LOG SYSTEM 1-5 EST VOLUME/AC 13 TOT VOLUME 52

PHOTO INFO: YR 1977 FLT LN 34 STEREO PR 1076-1861  
1/4 QUAD ID: 187

PLANNED (ORTHO PHOTO) SCALE: 1:15840



### LEGEND

Unit Boundary Existing Spec Rd.   
Landing Planned Road   
Split Line Temporary spur   
Full Suspension Road closure   
Partial Suspension (after haul)  
Stream Streamside zone

SILVICULTURE  
RX SYNOPSIS  
Partial cut unit. Cut approximately 20% of the area with group selection cuts, cut skyline corridors. Cut areas should regenerate naturally. Average site index is 77 (fair). Predominant plant species is western hemlock with some inclusions of mixed conifer. Unit is adjacent to old Redwood R. Watershed harvest unit. 2/14/91

TIMBER & LOGGING  
SYSTEMS  
Resource concerns: Unit designed for uphill logging with live skyline/flyer system. Try to angle corridors to reduce impacts to visual. If logging occurs near V-notches, eventually fall timber away from them and split yard V-notch. 2/14/91

ROADS & ACCESS  
Resource concerns: Unit accessed by 2000 temporary spurs from road 2223. Use natural approaches to screen road cuts from views in adjacent unit. 2/14/91

FISHERIES & HYDROLOGY  
Resource concerns:  
name: date: 2/10/91

name: date:   
SOILS: Resource concerns: Partial suspension needed to reduce soil disturbance

name: R. Huchison date: 2/14/91  
WILDLIFE: Resource concerns: Loss of clear winter range and winter habitat. Snag retention in corridors and small openings probably not possible.

name: M. J. W. date: 2/15/91  
RECREATION & VISUAL: Resource concerns:

name: date:   
CULTURAL: Resource concerns:

name: date:   
Reviewed By: date:

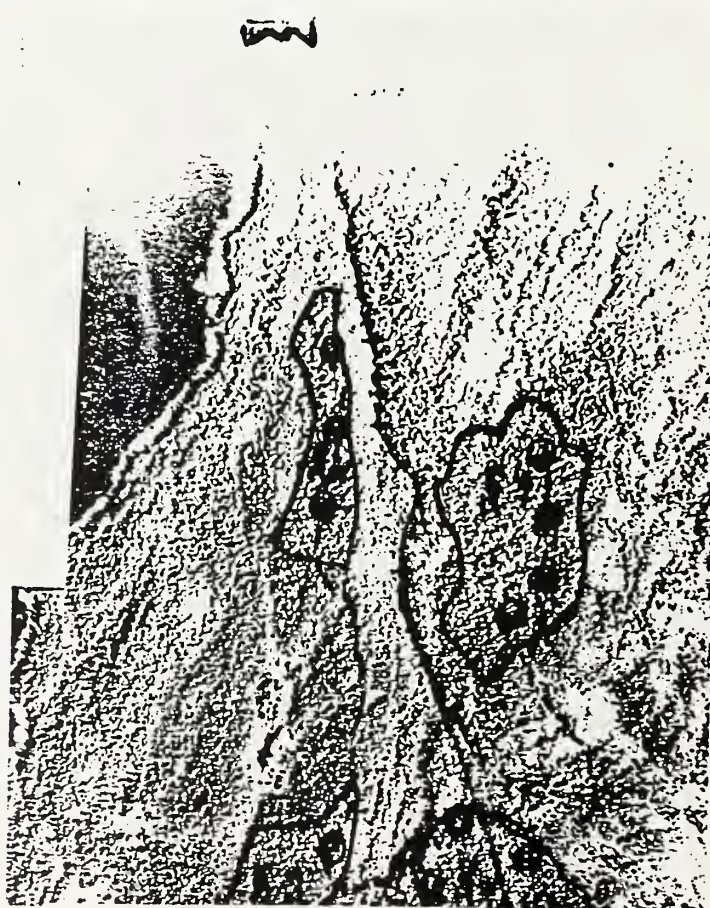
title: Interdisciplinary Team Leader date: 2/18/91



## UNIT DESIGN CARD

## STATEMENT OF INTENT BY IDT:

Areas of extreme soil hazard dropped from unit, lower part of draft unit dropped due to no road access. Road, low volume construction units 400' buffer from bench. Avoids bench fringe and lower etc. buffer.

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 700PHOTO INFO: YR 1976 FLT LN 37 STEREO PR 276/304  
1/4 QUAD ID:PLANNED (ORTHO PHOTO) SCALE: 1:15110

## LEGEND

Unit Boundary      Existing Spec Rd.       
 Landing      Planned Road       
 Split Line      Temporary spur       
 Full Suspension      Road closure       
 Partial Suspension      (after haul)       
 Stream      Streamside zone     

UNIT # 200 ACRES 28

SILVICULTURE Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 87 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry/field fern and western hemlock/blueberry. If possible, retain 3 snags per acre for diversity.

TIMBER & LOGGING REDUCED R. Zabriskie 2/14/91  
 SYSTEMS DESIGNED FOR Highlead CARC SYSTEMS,  
 Both up and downhill.

name: Don Filly date: 2/1/91  
 ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7539.  
 NO FURTHER IMPROVEMENTS NEEDED, SO SHORT TERM ROAD NEEDED.  
 NEEDED SOILS INPUT ON LOCATION OF ROAD.

name: J. Lantz date: 2/14/91  
 FISHERIES & HYDROLOGY RESOURCE CONCERNS: No stream, concerns OK 1/1/91  
no fish concerns. USG.

name:      date:       
 SOILS: No soils concerns RESOURCE CONCERNS:     

name:      date: 2/10/91  
 WILDLIFE:      RESOURCE CONCERNS: Loss of highbush deer and marten habitat, stags out of bench fringe

name: M. Tweber date: 11/27/90  
 RECREATION & VISUAL:      RESOURCE CONCERNS:     

name:      date:       
 CULTURAL:      RESOURCE CONCERNS:     

name:      date:       
 Reviewed By:     

title: James S. Burns Disciplinary Team Leader date: 2/14/91  
 Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

## STATEMENT OF INTENT BY IDI:

Area of extreme soil hazard, east of unit chopped from consideration. One end by suspension will minimize soil disturbance

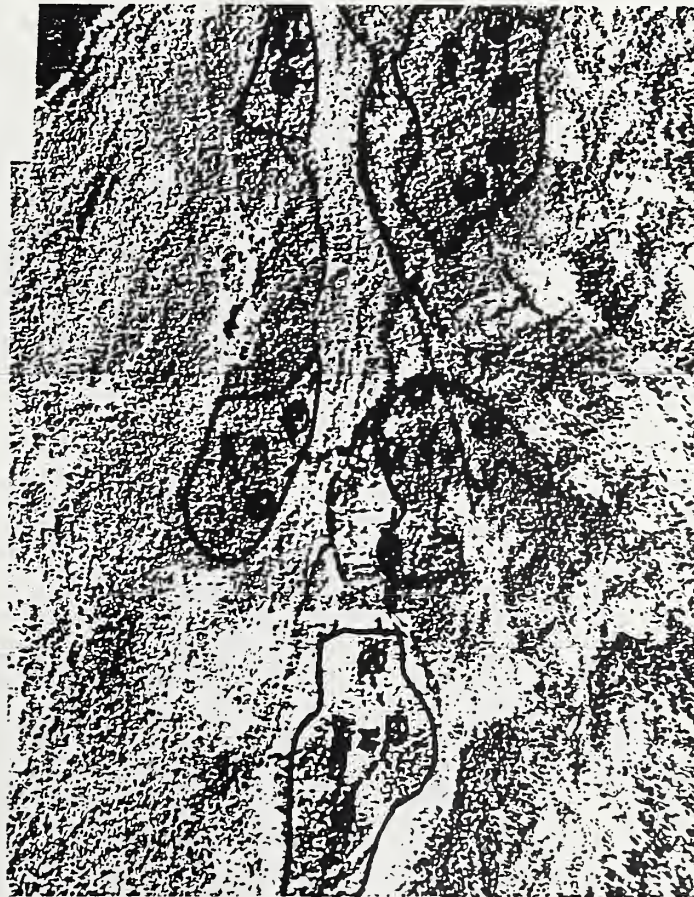
## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 364PHOTO INFO: YR 1976 FLT LN 37 STEREO PR 276/304

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

Unit Boundary Existing Spec Rd.   
 Landing Planned Road   
 Split Line Temporary spur   
 Full Suspension Road closure   
 Partial Suspension (after haul)  
 Stream Streamside zone

UNIT # 201

ACRES 28

SILVICULTURE Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planning mixed conifer areas with alaska-cedar to maintain current species composition. Site productivity ranges from low to high. If possible, retain 2 snags per acre for diversity. Average site index is 74 (fair).  
 2/14/91

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: (RESOURCES) 10% LUMBER LIVE SEPARATE/REPORT One end by suspension need to minimize disturbance to high hazard soil.  
 name: John Kelly date: 2-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESS BY ROAD 7534. A TEMPORARY SPUR WILL BE NEEDED TO REACH THE WEST LANDS.

name:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

NO MOUNTAIN CONCENTRATIONS 1/1/91

no fish concerns UGS.

name: A. Lutz date: 2/14/91

name:

## SOILS:

RESOURCE CONCERNS:

date:

name: A. Lutz date: 2/14/91

## WILDLIFE:

RESOURCE CONCERNS:

Loss of moderate and high value deer habitat and high value marten habitat.

name: MTJ Weber date: 11/27/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

## CULTURAL:

RESOURCE CONCERNS:

date:

name:

Reviewed By:

date:

title:

James S. Dorman, Bueyinski  
Interdisciplinary Team Leaderdate: 2/18/91

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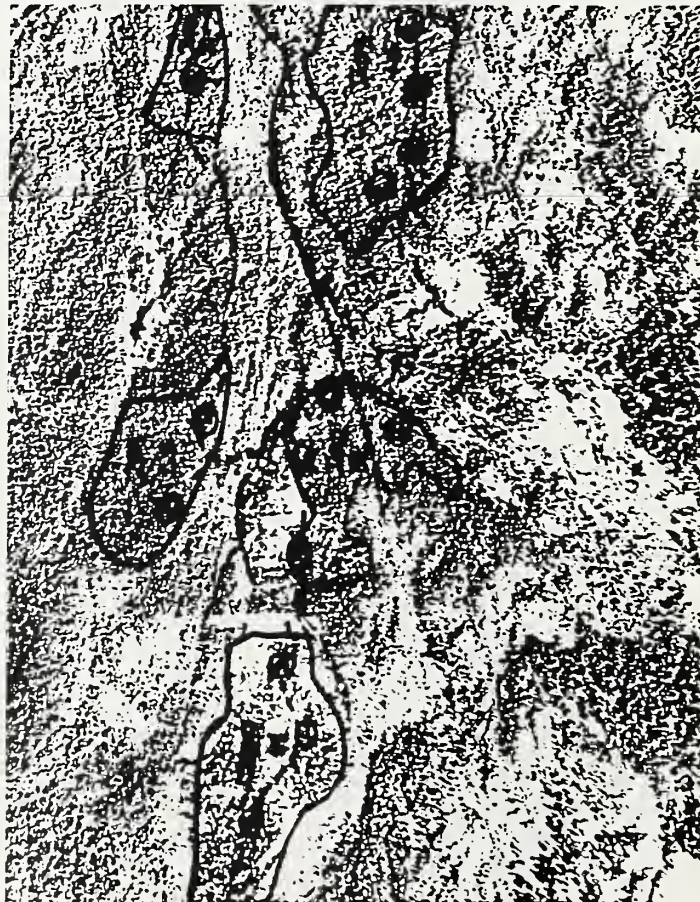


## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: <sup>(100')</sup> Keep 50' buffer on Class II stream north of unit or stop at slope break if further. Split yard away from V-notch and avoid extreme hazard soils NW of unit. Recreation has. Consideration for various slope of unit. One end log suspension would minimize soil disturbance.

LOG SYSTEM SL EST VOLUME/AC 13 TOT VOLUME 585  
 PHOTO INFO: YR 1976 FLT LN 37 STEREO PR 276/304  
 1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305  
H

EXISTING ROAD  
 PLANNED ROAD

UNIT # 202 ACRES 45

SILVICULTURE Cleared unit followed by natural regeneration.  
 Rx SYNOPSIS Site productivity ranges from low to moderate with an average site index of 76 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/betula, western hemlock/shield fern, and western hemlock/blueberry. If possible, retain 2 snags per acre for diversity.

Richard R. Johnson 2/17/91

TIMBER & LOGGING RESOURCE CONCERNS:

DESIGNED FOR MINIMUM SLOPES. CARE SYSTEMS TO Provide one end log suspension to minimize impact to high hazard soils. DIRECTIONALY FELL AND SKID YARD V-NOTCH. name: Richard R. Johnson date: 2/17/91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSORY BY ROAD 7539. A TEMPORARY TURN OFF OF ROAD 75397 WILL BE NEEDED TO REACH THE SOUTH LANDING. UTILIZE IT CURRENT TO CROSS THE CLASS II STREAM.

FISHERIES & HYDROLOGY RESOURCE CONCERNS: ADJACENT 100' BUFFER AREA CLASS II (12/11). date: 2/14/91

Maintain 100'(min) buffer along NE boundary. UGS. date: 1-14-91

name: Richard R. Johnson date: 2/14/91  
 SOILS: RESOURCE CONCERNS: Low productivity

name: Richard R. Johnson date: 2/14/91  
 WILDLIFE: RESOURCE CONCERNS: loss of moderate value

name: Richard R. Johnson date: 2/14/91  
 RECREATION & VISUAL: RESOURCE CONCERNS: low value deer habitat.

name: Richard R. Johnson date: 2/14/91  
 CULTURAL: RESOURCE CONCERNS:

name: Richard R. Johnson date: 2/14/91  
 REVIEWED By:

name: Richard R. Johnson date: 2/14/91  
 title: Interdisciplinary Team Leader date: 2/18/91

name: Richard R. Johnson date: 2/14/91  
 title: Interdisciplinary Team Leader date: 2/18/91

GMA-1900-05





## UNIT DESIGN CARD

UNIT # 204

ACRES 108

STATEMENT OF INTENT BY IDT: Keep west boundary at the  
slope break above Class II stream.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 1404PHOTO INFO: YR 1976 FLT LN 36 STEREO PR 176/83

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (D) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305  
H)EXISTING ROAD  
--- PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by normal regeneration.  
 Site productivity ranges from low to moderate with  
 an average site index of 77 (Fair). Predominant plant series is  
 western hemlock. Predominant plant associations are western hemlock/  
 blueberry and western hemlock/blueberry/sitka cabbages. If possible,  
 retain 2 snags per acre for diversity.  
 Richard R. Zedler 2/15/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR UPHILL LIVE SKYLING/FLYER  
 CABLE SYSTEMS. OCCASIONALLY FELL TREES AWAY FROM MUSKIES.

name: R. Zedlerdate: 2-11-91

ROADS & ACCESS: RESOURCE CONCERNS: UNIT IS ACCESSED BY ROAD  
 75395 THREE(3) TEMPORARY SPURS WILL BE ADDED TO REACH THE  
 EAST TAILINGS. BECAUSE OF WIDE TOP ACCESS, USE NATURAL  
 LAUNDRIES TO SCREEN ROAD CUTS FROM VIEWS IN FINE STRAIT.  
 name: R. Zedler date: 2/15/91

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

MINIMUM 100' BUFFER, FILL AWAY FROM CUTS IF SITE-MAN  
 DE 1-11-91

min 50' buffer on  
 min class 2 stream or to slope break logs.

name:

date:

## RESOURCE CONCERNS:

NO Smiths Can weavers

name: R. Zedlerdate: 2/15/91

## WILDLIFE:

## RESOURCE CONCERNS:

loss of moderate to high deer  
 and high value marten habitat.

name: M. Twissdate: 11/27/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

name:

date:

## RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

James J. Bernal Bernal  
 Interdisciplinary Team Leader

date: 2/15/91

GMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: <i>split yard V-notches and avoid extreme hazard soils NE of unit. V-notches concern plan level stait. One end by suspension will reduce and obstruct view.</i>		UNIT # <u>205</u> ACRES <u>62</u>	
LOG SYSTEM <u>LS</u> EST VOLUME/AC <u>13</u> TOT VOLUME <u>806</u>		SILVICULTURE Rx SYNOPSIS <i>clearest units, predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planning mixed conifer areas with alaska-cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 66 (fair). If possible, retain 2 snags per acre for diversity.</i>	
PHOTO INFO: YR <u>1976</u> FLT LN <u>36</u> STEREO PR <u>1176/83</u>		RESOURCES CONCERNS: <i>DESIGNED FOR OPENING LIVE SKYLING / FLYER CABLE SYSTEMS. COULD BE GUY ANCHOR PROBLEMS WITH LANDINGS AT MUYUGA EDGE. DISCRETIONARY FELL AND SPLIT YARD V-NOTCHES ONCE GUY SUSPENSION REQUIRED TO MINIMIZE DISTURBANCE TO NAME: <i>Plumville</i> series of soils</i>	
1/4 QUAD ID: <u>PLANNED (ORTHO PHOTO)</u> SCALE: <u>1:15840</u>		ROADS & ACCESS <i>RESOURCES CONCERNS: UNIT ACCESSED BY ROAD 75396. TWO ADDITIONAL TOWNSHIP SPURS WILL BE ORDERED. BECAUSE OF BUDGETARY USE NATURE LAND FORMS TO SURGE. ROAD CUTS FROM VIEWS IN PARK STREET.</i>	
		FISHERIES & HYDROLOGY <i>RESOURCES CONCERNS: SPLIT YARD ON V-NOTCHES. DE 1-11-91</i>	
		name: <i>Plumville</i> date: <i>2/15/91</i>	
		SOILS: <i>RESOURCES CONCERNS: <i>Plumville</i> series of soils</i>	
		name: <i>Plumville</i> date: <i>2/15/91</i>	
		WILDLIFE: <i>RESOURCES CONCERNS: <i>Loss of moderate and high value deer and high value marten habitat.</i></i>	
		name: <i>Mat Weber</i> date: <i>11/27/90</i>	
		RECREATION & VISUAL: <i>RESOURCES CONCERNS:</i>	
		name: <i>Mat Weber</i> date: <i>11/27/90</i>	
		CULTURAL: <i>RESOURCES CONCERNS:</i>	
		name: <i>Mat Weber</i> date: <i>11/27/90</i>	
		name: <i>Mat Weber</i> date: <i>11/27/90</i>	
		name: <i>Mat Weber</i> date: <i>11/27/90</i>	
LEGEND		Reviewed By: <i>James S. Bunnell</i>	
CLASS I STREAM CLASS II STREAM CLASS III STREAM BUFFER ZONE LANDING		title: <i>James S. Bunnell</i> Interdisciplinary Team Leader date: <i>2/18/91</i> GMA-1900-05	



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: split yard V-notch through middle of unit. Visual concerns noted by recreation. Usable from Paul Street

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 442  
 PHOTO INFO: YR 1976 FLT LN 36 STEREO PR 1176/83  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15810



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING  
 UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
 305 H  
 EXISTING ROAD  
 PLANNED ROAD

UNIT # 206 ACRES 34

SILVICULTURE  
 RX SYNOPSIS  
 Clearcut unit. Consider planning unit with Alaska cedar to maintain current species composition. Site productivity is low. Predominant plant species is mixed conifer. Predominant plant associations are mixed conifer/blueberry and mixed conifer/blueberry/skunk cabbage. If possible, retain 2 snags per acre for diversity. Richard R. Johnson 2/15/91

TIMBER & LOGGING  
 SYSTEMS  
 DESIGNED FOR DOWNSIDE HIGHWAY (CARLE)  
 SYSTEMS. DIRECTIONAL FELL AT MUSKIE'S. DIRECTIONAL FELL AND SPLIT YARD V-NOTCH IN CENTER OF UNIT.  
 name: Richard R. Johnson date: 2-11-91

ROADS & ACCESS  
 RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 1539. A TEMPORARY SPUR WILL BE NEEDED TO REACH THE WASTEWATER LANDING. KEEP TEMPORARY ABOVE MUSKIE'S.

name: Richard R. Johnson date: 2/15/91  
 FISHERIES & HYDROLOGY  
 RESOURCE CONCERNS: NO MUSKIE'S, DIC 1-11-91

*Visual concerns 198*

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: Richard R. Johnson date: 2/15/91  
 WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: Loss of low and moderate value deer and high value marker habitat.

name: M.J. Weber date: 11/27/90  
 RECREATION & VISUAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
 CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_


name: \_\_\_\_\_ date: \_\_\_\_\_  
 Reviewed By: \_\_\_\_\_

title: James S. Burnard Baynardi date: 2/18/91  
 Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: keep 50' buffer on Class II stream to the north on steep slope break. Split yard V-notch at SE corner. Avoid extreme hazard soils south of the unit. One end log suspension will minimize soil disturbance.		UNIT # 207 ACRES 6.4	
LOG SYSTEM SL EST VOLUME/AC 13 TOT VOLUME 832		SILVICULTURE Rx SYNOPSIS	
PHOTO INFO: YR 1976 FLT LN 36 STEREO PR 1176/83		Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 75 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern unit and western hemlock/blueberry. It is possible to retain 3 snags per acre for diversity.	
1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840		TIMBER & LOGGING SYSTEMS	
		DESIGNED FOR DRAINAGE SAVING CARLE SYSTEMS TO PROVIDE ONE-AND SUSPENSION FOR PROTECTION OF HIGH HAZARD SOILS. DIRECTIONALITY FELL AND SPLIT YARD V-notch REQUIRE ONE-AND SUSPENSION. date: 2-11-91	
		ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 1534. A TEMPORARY SPUR WILL BE NEEDED TO REACH WESTMOST HAZARD. IF A RACE PIT IS POSSIBLE ALONG HERE, SCHOOL FLAM VIEWS IN PARK STATION. of last date: 2/15/91	
FISHERIES & HYDROLOGY		RESOURCE CONCERNS:	
OF UNIT, SPLIT YARD IN V-NOTCHES DK 1-11-91		MAINTAIN 100' BUFFER AROUND CLASS II STREAM NORTH	
name: maintain 100' (min) buffer on class 2 stream at V-notch boundary. Vgs.		name: date:	
SOILS: RESOURCE CONCERNS:		SOILS: RESOURCE CONCERNS:	
name: date:		name: date: 2/1/91	
WILDLIFE: RESOURCE CONCERNS:		WILDLIFE: RESOURCE CONCERNS:	
high value deer and moderate, high marten habitat.		loss of low, moderate and high value deer and moderate, high marten habitat. date: 11/27/90	
RECREATION & VISUAL: RESOURCE CONCERNS:		RECREATION & VISUAL: RESOURCE CONCERNS:	
name: date:		name: date:	
CULTURAL: RESOURCE CONCERNS:		CULTURAL: RESOURCE CONCERNS:	
name: date:		name: date:	
Reviewed By:		name: date:	
title: James S. Burns, Supervisor		Interdisciplinary Team leader date: 2/18/91	

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## UNIT DESIGN CARD

UNIT # 208 ACRES 67

STATEMENT OF INTENT BY IDT: split yard V-notch in SE portion of unit and hold SW boundary at slope break above V-notch. Unit reduced in size for soils, fisheries, wildlife and visuals concerns.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1675  
 PHOTO INFO: YR 1976 FLT LN 36 STEREO PR 1176/83  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
 EXISTING ROAD  
 PLANNED ROAD

305  
H

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 81 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity.

Retained R. Zerkow 2/15/91

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR UTILIZE LIVE SKYLINE/FURTER  
 CABLE SYSTEMS (2-75%) AND DOWNHILL LIVE SKYLINE SYSTEMS (25-32)  
 DIRECTIONAL FELL AND SPLIT YARD V-NOTCH.

name: Randy Kelly date: 2-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCORDED BY ROAD 7539. A SHORT TEMPORARY DRIVE MAY BE ADDED TO REACH THE NORTHERN LANDING. ROLL THE ROAD GRADE AS IT PASSES TOP TO BOTTOM OF UNIT TO RESOLVE VISUAL CONCERNS WITH ROAD CUT.

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: SPLIT YARD AT V-NOTCHES.

Maintain 100' buffer (min) along Class 2 streams. 093.

name: \_\_\_\_\_

date: \_\_\_\_\_

## SOILS: \_\_\_\_\_

RESOURCE CONCERNS: \_\_\_\_\_

name: R. Kellydate: 2/15/91

## WILDLIFE: \_\_\_\_\_

RESOURCE CONCERNS: Loss of moderate value

decid and marker habitat. Unit broken up to allow travel corridor and protect soils.

name: M.T. Weberdate: 4/22/90

## RECREATION &amp; VISUAL: \_\_\_\_\_

RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_

date: \_\_\_\_\_

## CULTURAL: \_\_\_\_\_

RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

title: \_\_\_\_\_

James S. Burns Bugarski date: 2/18/91  
 Interdisciplinary Team Leader

GMA-1900-05



## UNIT DESIGN CARD

Total  
ACRES 53

UNIT # 209

STATEMENT OF INTENT BY IDT: stay 500' from the beach and at least 330' from eagle tree north of unit. Directionally drill away from V-notches. Partial cut prescribed to reduce impacts to Visulks and recreation.

UNIT DESIGN (PLANNED)

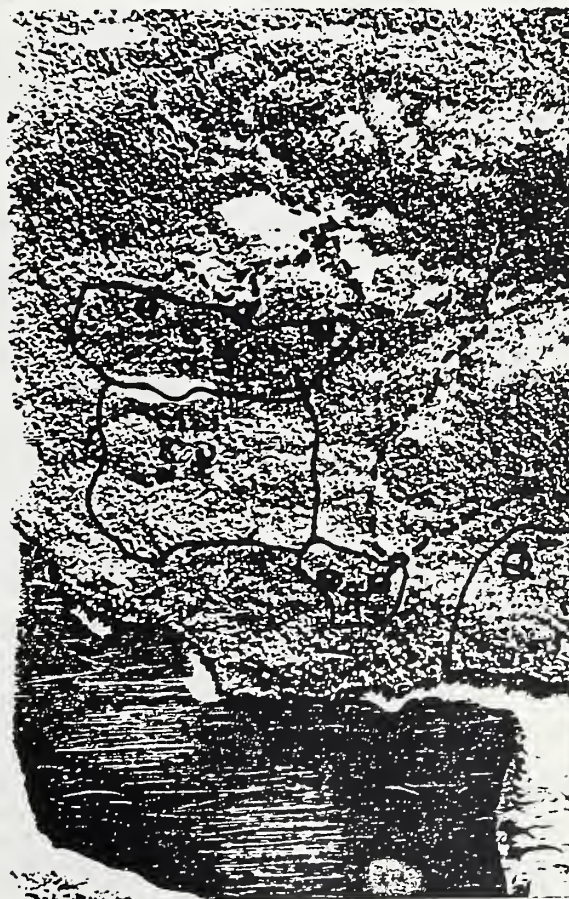
LOG SYSTEM	HE	EST VOLUME/AC	25	TOT VOLUME	250
LOG SYSTEM	HE	EST VOLUME/AC	25	TOT VOLUME	250

PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/291+292

1/4 QUAD ID:

**PLANNED (ORTHO PHOTO)**

SCALE: 1:15000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

**SILVICULTURE**  
**Rx SYNOPSIS**

Predominant plant series is western hemlock. Cut areas should regenerate naturally. Site productivity ranges from low to moderate with an average site index of 72 (Fair). Predominant plant associations are western hemlock/blueberry and western hemlock/bloody shield fern.   
 Redwood R. 200m 2/14/91

## TIMBER & LOGGING

SYSTEMS	DESIGNED FOR HELICOPTER LANDING
SYSTEMS: PROBABLY FLY FROM V-NETWORKS.	
FLY HANGING DOWN TO SAWIT LTF or uphill to landing in unit 211.	
NAME:	BRAND, Billy
DATE:	2/1/81

ROADS & ACCESS  
SAOULTF AS  
CONCNS.  
1  
THESE CONCNS. ARE HANDLING FOR THE UNIT NO  
RESOURCE CONCNS: UTIC12550KRYARD NEXT10

name: 11/11/11 date: 11/11/11

FISHERIES & HYDROLOGY	<p>RESOURCE CONCERNS: <i>SPUR GATED, DISCREPANT FATHOM</i>  <i>AW OF FISHES V. NO. 121212 IN POWER PLANT DUE 117</i></p>
-----------------------	--

Class/ stream in NW corner of unit:  
mantle 100' min. buffer. VGS

name: \_\_\_\_\_  
date: \_\_\_\_\_

SOILS: \_\_\_\_\_ RESOURCE CONCERNS: divertionally fall timber  
sway from V-natches

name: Robert L. Jackson  
date: 2/11/46

WILDLIFE: RESOURCE CONCERNS: loss of low and high value  
beaver and marten habitat, boundary pulled back 500' from the  
boundary.

date: 11/27/92

RECREATION &amp; RESOURCE CONCERNS:

**VISUAL:** \_\_\_\_\_

name: \_\_\_\_\_  
date: \_\_\_\_\_

CULTURAL:	RESOURCE CONCERNS:
-----------	--------------------

name: \_\_\_\_\_  
date: \_\_\_\_\_

Reviewed By:

title: James S. Burns Biography date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: *Keep south boundary at the slope break of U-notch.*

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1375

PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/291-212

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- ⊙ LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

UNIT # 210ACRES 5.5

SILVICULTURE Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 77 (Fair). Predominant plant associations are western hemlock with some inclusions of mixed conifer. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. It is possible to retain 2 snags per acre for diversity. *Richard R. Zabriskie 2/14/91*

TIMBER & LOGGING SYSTEMS

RESOURCE CONCERNS:

DESIGNED FOR OFFICIAL LIVE SKYLINE/FLEXED CASE SYSTEMS. One end lay suspension required to minimize disturbance to high hazard zone. Directionally fall timber away from U-notch along south boundary. *date: 2-11-91*

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75343. TWO TEMPORARY SAMS WERE ALSO BE USED TO REACH THE SOUTH LANDINGS. USE NATURAL LANDFORMS TO SCREEN ROAD CUTS ON RIDGE FROM VIEWERS IN SPOKE BAY. *name: [illegible] date: 2/15/91*

FISHERIES & HYDROLOGY RESOURCE CONCERNS: *no fish concerns. VOS.*

DATE: 11-91

name:

date:

SOILS: RESOURCE CONCERNS: Directionally fall trees away from U-notch along southern boundary

name: *Robert H. Huchler* *date: 2/11/91*

WILDLIFE: RESOURCE CONCERNS: Loss of moderate & high value deer habitat and high value marten habitat.

name: *Mark Weber* *date: 11/27/90*

RECREATION & VISUAL: RESOURCE CONCERNS:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

*James S. David Bayraktar*  
Interdisciplinary Team Leader *date: 2/18/91*

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 211

ACRES 12

STATEMENT OF INTENT BY IDI: Keep 500' from beach. Avoid oversteepened slopes and cliffs.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 300PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/291-292

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15000

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

clearcut unit followed by natural regeneration, site productivity is high with an average site index of 45 (Fair). Predominant plant species is western hemlock, predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. If possible, retain 2 snags per acre for diversity. Consider unit for reforestation following 20-25 years.

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR UPHILL AND DOWNHILL (HISTORICAL) CABLE SYSTEMS.

name:

Steve Lely

date: 2-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY A TEMPORARY SAWYER OFF OF ROAD 7534, USE NATURAL HANDRAILS TO SCREWED AND CUTS FROM VIEW IN SNAKE BAY.

name:

Steve Lely

date: 2/15/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No concerns DK 1-11-91

No fish concerns. 198.

name:

Steve Lely

date:

## SOILS

## RESOURCE CONCERNS:

No soils concerns.

name:

Steve Lely

date: 2/11/91

## WILDLIFE

## RESOURCE CONCERNS:

Loss of deer and mountain habitat. Boundary pulled back 500' from the beach.

name:

MTI Weber

date: 4/27/90

## RECREATION &amp; VISUAL

## RESOURCE CONCERNS:

name:

Steve Lely

date:

## CULTURAL

## RESOURCE CONCERNS:

name:

Steve Lely

date:

## Reviewed By:

James S. Burns

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

Alternatives 2,3,5

UNIT # 213

ACRES 122

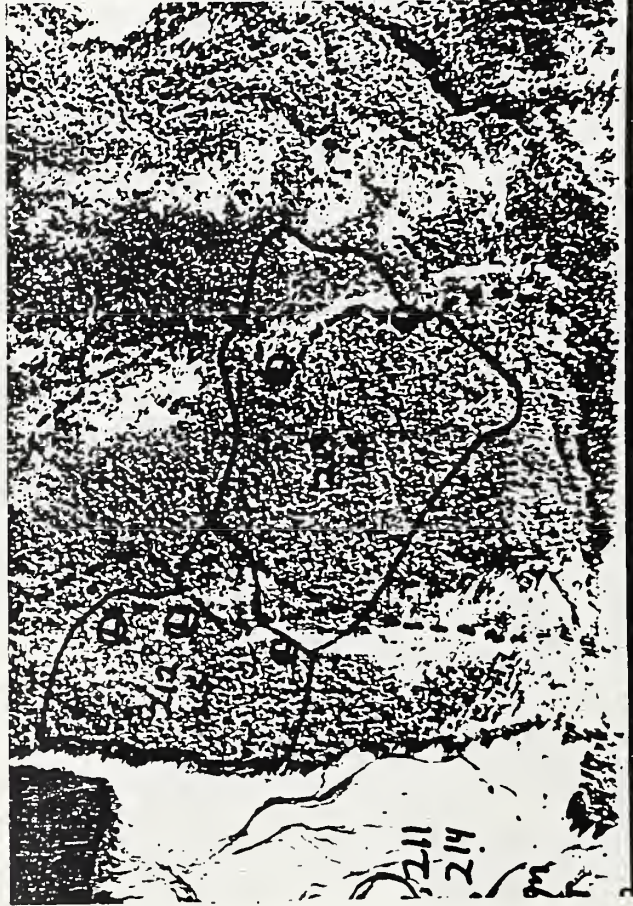
STATEMENT OF INTENT BY IDT: Do not yard across V-notch at NW corner. Directionally fall and split yard away from V-notches.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 3050PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/291+292

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1" = 15840'

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
 H  
 UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 94 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/sitka spruce. If possible retain 2 snags per acre for diversity. Robert R. Johnson 2/14/91

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

DESIGNED FOR LIVE SKIDDER/FLEXER CABLE SYSTEMS. EXPECT 1000 FT. + REACHES. DISCONTINUITY FELL AND SPLIT YARD V-NOTCH.

name:

Robert R. Johnsondate: 2-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75392. BECAUSE OF RIDE TOP USE NATURAL HANDFORMS TO SCREEN ROAD CUTS FROM VIEW IN SPOKE BAY.

name:

J. Lottdate: 2/15/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

DIRECTIONALLY FALL, SPLIT YARD IN V-NOTCHES

Class 3 stream flowing into Class 1. Split yard and directionally fallway from V-notch. WFS.

name:

date:

## SOILS:

RESOURCE CONCERNS: Split yard on V-notches as indicated on photo

name:

Robert R. Johnsondate: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of deer winter range and marten habitat.

name:

M. Trecherdate: 11/27/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

name:

date:

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

James S. Burns/Bequith  
 Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



# Alternative 4

## UNIT DESIGN CARD

UNIT # 213

Total ACRES 122

STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to recreation and visuals. Do not yard timber across V-notch at northwest corner of unit. Split yard V-notches.

### UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 600

PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376-291/280  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840



### LEGEND

Unit Boundary	Existing Spec Rd.
Landing	Planned Road
Split Line	Temporary spur
Full Suspension	Road closure (after haul)
Partial Suspension	Streamside zone
Stream	

SILVICULTURE  
Rx SYNOPSIS  
Partial cut unit. Cut approximately 20% of the area with group selection cuts. Cut skyline corridors. Try to angle corridors to reduce visual impacts. Cut areas should regenerate naturally. Predominant plant series is western hemlock. Site productivity ranges from moderate to high with an average site index of 94 (Fair).

Richard R. Zalsky 2/14/91

TIMBER & LOGGING  
SYSTEMS  
RESOURCE CONCERNS: Unit designed for uphill yarding with live skyline system. Some reaches could be 2000 feet plus. If logging occurs near V-notches, directionally fall timber away from them and split yard. Additional landings may be needed to yardal cut unit.  
name: Richard R. Zalsky date: 2/14/91

ROADS & ACCESS  
RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75392. BECAUSE OF ROAD 75392, VISIT NATIONAL LANDS TO SCORRA ROAD CUTS FROM VIEWS IN SPOOK DAY.

FISHERIES & HYDROLOGY  
name: Clint date: 2/15/91

RESOURCE CONCERNS:

name:

SOILS:  
RESOURCE CONCERNS: Split yard on V-notches and ensure that timber is not yarded across V-notch at the northwest corner of unit.

date:

name: P. Threche

WILDLIFE:  
RESOURCE CONCERNS: Loss of deer winter range and marten habitat. Corridors and small openings will probably preclude song retention.

date: 2/15/91

name: M. Threche

RECREATION & VISUAL:  
RESOURCE CONCERNS:

date: 2/15/91

name:

CULTURAL:  
RESOURCE CONCERNS:

date:

name:

Reviewed By:

date:

title:

James S. Burns, Regional Interdisciplinary Team Leader

date: 2/18/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 215 ACRES 68

STATEMENT OF INTENT BY IDT: Keep north boundary at slope break of V-notch. Split yard V-notches and get at least partial suspension on north notch. Get partial suspension over unstable area in west central portion of unit to minimize soil disturbance.

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1700  
 PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/290  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15000

LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 .... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (1) LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Current unit followed by normal regeneration. Site productivity is low with an average site index of 61 (hard). Unit is adjacent to old harvest unit. Permanent plant species is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity. 2/15/91

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR UPRILL LIVE SKELONE/FERN

CHARGE SYSTEMS: DIRECTIONALITY FERN AND SPLIT YARD

V-NOTCH: One and suspension needed to minimize disturbance.

name: Ray Kelly Sensitive Soils. Tailhills may be sensitive. date: 2-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75392. 1200 GRADE TO BRANCH CONTINUUM OF CUTSLOPE TO REDUCE VISUALS. SOME SHORT-TERM IMPACTS MAY BE AVOIDED.

## name:

RESOURCE CONCERNS: Unit date: 2/15/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

MOUNTAIN NORTH BOUNDARY TO SLOPE BREAK OF V-NOTCH. SPLIT YARD IN V-NOTCH. DATE: 1-11-91

Pull back to slope break along stream in W. portion of unit. VGS.

name: \_\_\_\_\_ date: \_\_\_\_\_

## SOILS:

RESOURCE CONCERNS: Unstable soils in western part of unit. Recommend minimum surface disturbance (partial suspension where possible). Directionally fall away from slope break along north boundary and split yard on V-notches as indicated on photo.

name: Robert H. Hanks date: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of high value clear and marten habitat.

name: M. J. Weber

## RECREATION &amp; VISUAL:

date: 4/27/90

name: \_\_\_\_\_

## CULTURAL:

## RESOURCE CONCERNS:

date: \_\_\_\_\_

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed By: note concerns the finding adequate tailhills along old harvest unit.

title: \_\_\_\_\_

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 216 ACRES 16

STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils between unit 249 and 216. Split yard V-notch and get one end log suspension.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 400PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/290

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

SILVICULTURE Rx SYNOPSIS  
Clearcut unit followed by natural regeneration. Site productivity is low with an average site index of 61 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry/sitka fir and western hemlock/blueberry/devils club. If possible, retain 2 snags per acre for diversity.

Richard R. Zelenak 2/15/91

TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS:

DESIGNED FOR DOMESTIC SATELLITE CABLE SYSTEMS TO PROVIDE ONE-EMA SUSPENSION FOR PROTECTION OF SENSITIVE SOILS. PRECIPITATION FELL AND SPLIT YARD V-NOTCH.

name: Richard R. Zelenak

date: 2-11-91

ROADS &amp; ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD

75392, ROLL GATES TO REDUCE VIBRATIONS.

name:

date: 2/15/91

FISHERIES &amp; HYDROLOGY RESOURCE CONCERNS: No concerns 1-11-91 DC

This fish concerns VGS

name:

date:

SOILS: RESOURCE CONCERNS: Directionally fall away from V-notch and split yard as indicated on photos. Avoid unstable areas along northern boundary.

name: Boff/Tracy/Kun

date: 2/11/91

WILDLIFE: RESOURCE CONCERNS: Loss of low and moderate

value deer habitat and moderate value marten habitat.

name: M. J. Weber

date: 11/27/02

RECREATION &amp; VISUAL: RESOURCE CONCERNS:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

James S. Bunn - Bunn Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 218 ACRES 85

STATEMENT OF INTENT BY IDT: Split yard 2 V-notches in center of unit and do full suspension over 2 small patches of extreme haz. soil on locate landings do pull logs away from the patches, stay 500' from the bench or 330' from eagle trees whichever is greater. One end log suspension over rest of unit will minimize soil disturbance.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 2125

PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/293-294

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- (L) LANDING

305 H

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE Clearcut unit followed by natural regeneration. Size Rx SYNOPSIS productivity ranges from low to high with an average site index of 61 (Fair). Predominant plant species are western hemlock and mountain hemlock. Predominant plant associations are western hemlock/blueberry and mountain hemlock/blueberry/copper bush. If possible, retain 2 snags per acre for diversity.

Richard R. Zaky, Jr. 2/15/91

## TIMBER &amp; LOGGING

SYSTEMS DESIGNED FOR UNIT ONE SKYLINE/FLYER CRANE SYSTEMS. DIFFERENTIALLY FELL AND SPLIT YARD V-NOTCHES. REQUIRE FULL SUSPENSION (1) FASCINE OVER EXTREME HAZARDOUS AREAS, ONE END SUSPENSION, REQUIRED ON REST OF UNIT TO MINIMIZE name: (P) fully disturbance to high hazard site. date: 7-11-91

ROADS & ACCESS RESOURCE CONCERNS: USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN SPOKE BAY SOILS TO BE INVOLVED WITH ROAD ABOUT BECAUSE OF PROXIMITY OF name: name: date: 2/15/91

FISHERIES & RESOURCE CONCERNS: name: date: 2/15/91  
HYDROLOGY Soil types in V-notches, Dk 1-11-91

No fish concerns. VNS.

name: name: date: date:  
SOILS: RESOURCE CONCERNS: Split yard and V notches as indicated on photo and recommended full suspension over hazardous soils in center of unit

name: name: date: date:  
WILDLIFE: RESOURCE CONCERNS: Loss of high value deer habitat and moderate high marten habitat.

name: name: date: date:  
RECREATION & RESOURCE CONCERNS: name: 11/27/90  
VISUAL: name: name: date: date:

name: name: date: date:  
CULTURAL: RESOURCE CONCERNS: name: name: date: date:

name: name: date: date:

Reviewed By:

title: Interdisciplinary Team Leader date: 2/18/91

CMA-1900-05





## UNIT DESIGN CARD

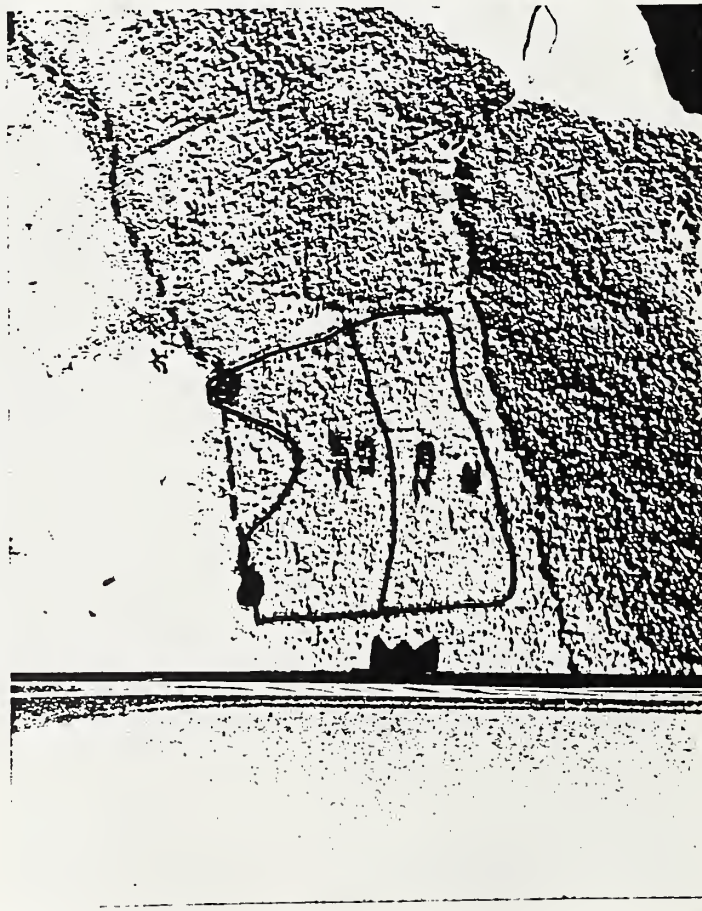
UNIT # 220 ACRES 38

STATEMENT OF INTENT BY IDT: keep south boundary at slope break above creek. Directionally fall timber away from notch in center of unit.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 494

PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/292-293  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15140



LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
H UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

clearest unit. Predominant plant series are western hemlock and mixed conifer. western hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska-cedar to maintain conifer species composition. Site productivity ranges from low to moderate with an average site index of 77 (Fair). If possible, refuging 3 years per acre for division of 77 (Fair). 2/15/91

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR HUCKLEBERRY LOGGING SYSTEMS. DIRECTIONALLY FALL AWAY FROM NOTCH. Fly timber to LTF in Sawk Bay. Alternate location would be uphill to landing name: Gray Lbf in unit 219. date:

ROADS & ACCESS RESOURCE CONCERNS: STATION 12005 UP TO SPOK LTF. OR FLY LOGS EXTRA DISTANCE TO SPOK LTF.

## name:

date: 2/15/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

Additional concerns about slope break in vicinity of stream. Directionally fall timber. Sawk Lbf in unit 219.

Maintain southern boundary along slope break name: on Class 2 Stream. VGS. date:

## SOILS:

RESOURCE CONCERNS: Downstream fly timber from V notch in vicinity of creek.

name: N. Auerdate: 2/15/91

## WILDLIFE:

RESOURCE CONCERNS: loss of high value deer and marten habitat.

name: M. Truherdate: 4/27/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

## name:

date:

## CULTURAL:

## RESOURCE CONCERNS:

## name:

date:

## Reviewed By:

title: James S. Band Buckner date: 2/18/91  
 Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 221

ACRES 114

STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils at the SE and SW corners of the unit. Directionally fall away from V-notches, keep north boundary at slope break of stream.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 2850PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/188-187  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
H UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
 RX SYNOPSIS  
 Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 90 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant species are western hemlock and mountain hemlock. If possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

RESOURCES CONCERNS: No road access.

SYSTEMS  
 Designed fire hazardous logging systems.

DISSEMINATION  
 in Suck-put  
 name: Lyndy Lilly

ROADS & ACCESS  
 TO LTF IN SACK BAY, COULD FLY LOGS WITHIN TO LANDING IN 219 HOURS.

date: 2-11-91

name:

FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

ADDITIONAL NORTH BOUNDARY TO SLOPE BREAK OF  
 OF STREAM, DISSEMINATED THE THROUGH AUTUMN  
 V-NOTCHES, DR 1-11-91

date: 2/13/91

name: Pull back boundary to slope break along Class 2 stream in V. portion of unit. VLF

date:

SOILS:

RESOURCE CONCERNS: Directionally fall away from

V-notches

name: R. H. H. H.

WILDLIFE:

RESOURCE CONCERNS: Loss of low, moderate and high value deer winter habitat. Loss of moderate and high value marten habitat.

date: 2/11/91

name: M. T. Weber

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

date: 11/21/90

name:

CULTURAL:

RESOURCE CONCERNS:

date:

name:

Reviewed By:

date:

title:

James S. Butler & B. J. B. B.  
 Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05

## UNIT DESIGN CARD

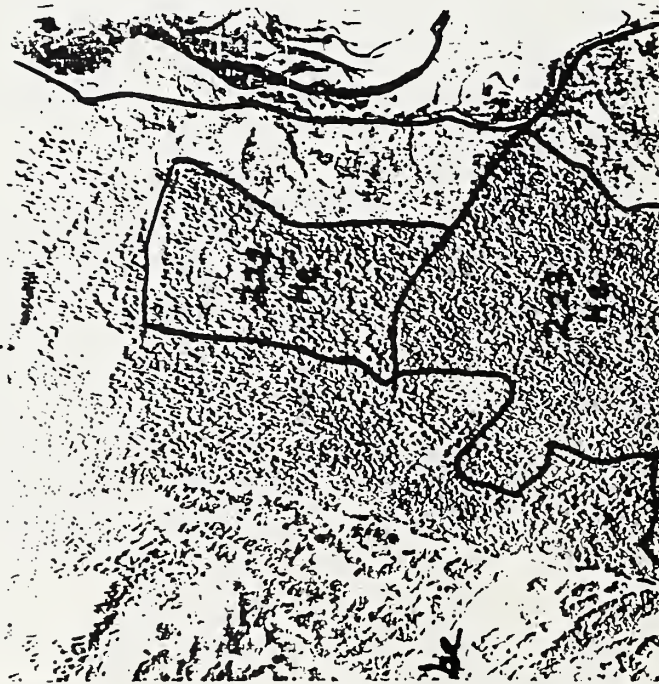
Alternatives 3, 4  
UNIT # 222 <sup>Total</sup> AGRES 67

STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to visual and recreation. Keep north and south boundaries at slope breaks of V-notches. Stay out of extreme hazard soils northwest of unit.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 325

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076-190  
1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

Unit Boundary Existing Spec Rd.   
Landing Planned Road   
Split Line Temporary spur   
Full Suspension Road closure   
Partial Suspension (after haul)  
Stream Streamside zone

SILVICULTURE  
RX SYNOPSIS

Partial cut unit. Cut approximately 20% of the average with small (2-5 ac) group selection cuts. Cut areas should regenerate naturally. Site productivity is moderate to high with an average site index of 95 (Fair). Predominant plant species is western hemlock.

Revised R Zolotarev 2/14/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to LTF in Sawok L.L.

Buy if logging occurs near V-notches, directionally fall timber away from them.

name: Revised R Zolotarev date: 2/14/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: Fly 206570 SAWOK L.L. AT LTF IN SAWOK BIRK.

name:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

date: 2/15/91

name:

## SOILS:

RESOURCE CONCERNS: Recommend Ensure that the boundaries of the unit are not impacted and that the unit boundary is above the slope breaks of the V-notches on the north and south sides of the unit.

## WILDLIFE:

RESOURCE CONCERNS: Loss of deer-winter range and marten habitat. Partial cut will mitigate some impact to estuary fringe. Snow retention may not be necessary.

name: M. T. Weber date: 2/15/91

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

## CULTURAL:

RESOURCE CONCERNS:

name:

## Reviewed By:

title:

James S. Blund Beggs  
Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



# Alternatives 5

## UNIT DESIGN CARD

UNIT # 222 ACRES 67

STATEMENT OF INTENT BY IDT: keep with E-south boundaries at the slope breaks of V-notches. Directionally fall away from V-notches. Avoid extreme hazard soils NW of unit.

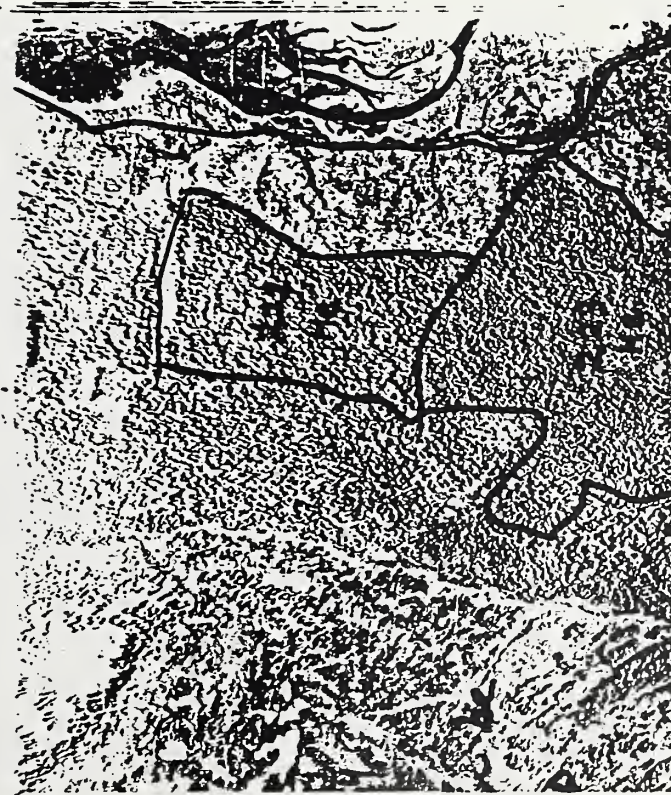
### UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 1675

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/190

1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15840



### LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- Ⓛ LANDING

305  
H UNIT BOUNDARY, NUMBER, + LOGGING METHOD

--- EXISTING ROAD  
--- PLANNED ROAD

### SILVICULTURE RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity is high with an average site index of 95 (Fair). Consider unit for precommercial thinning in 20-25 years. Unit adjacent to an old harvest unit. Predominant plant species is western hemlock. If possible, retain 2 snags per acre for diversity.

### TIMBER & LOGGING SYSTEMS

DESIGNED FOR MECHANIZED CUTTING SYSTEMS.

DIRECTIONAL FELLING AT V-NOTCHES. Fly timber to LTF in Sawok Bay.

name: Ken Lilly

date: 2-11-91

### ROADS & ACCESS

RESOURCE CONCERNS: FLY LOGS TO SAWYER BAY AT LTF IN SAWYER BAY.

### name:

### FISHERIES & HYDROLOGY

RESOURCE CONCERNS:

MULTIPLE USES: WATERWAYS, SOILS, SNAGS TO V-NOTCHES DEC 1-11-91

No fish concerns Vgs.

### name:

date: 2/11/91

### name:

SOILS:

RESOURCE CONCERNS: Directionally fall away from V-notches.

date:

name: R. Muehlen

### WILDLIFE:

date: 2/11/91

RESOURCE CONCERNS: Loss of moderate and high value deer and marten habitat. Unit is partially w/in estuary fringe.

name: M. J. Weber

### RECREATION & VISUAL:

date: 11/27/90

RESOURCE CONCERNS:

### name:

### CULTURAL:

RESOURCE CONCERNS:

date:

### name:

Reviewed By:

date:

### title:

Interdisciplinary Team Lead

date: 2/18/91



# UNIT DESIGN CARD

Alternative 3

UNIT # 223

ACRES 146

STATEMENT OF INTENT BY IDI: Avoid extreme hazard soils along South and Southwest boundaries. Directionally fall away from V-notch at north boundary & stop at slope break.

UNIT DESIGN (PLANNED)  
LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 3650  
PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/190-181  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING  
UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS  
Clearcut unit. Predominant plant species are western hemlock and mixed conifer. western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to alaska-cedar to retain current species composition. Site productivity ranges from low to high with an average site index of 75 (fair). If possible, retain 2 snags per acre for division. Redwood 2/15/91

TIMBER & LOGGING  
SYSTEMS  
DESIGN WITH FOR DISCUSSION. Western synopsis. Fly timber to LIF

name: John Kelly date: 2-11-91  
ROADS & ACCESS  
RESOURCE CONCERNS: FLY LOGS TO SOUTHWEST  
AT SHORE LIF

FISHERIES & HYDROLOGY  
name: John Kelly date: 2/15/91  
RESOURCE CONCERNS: No concerns 1-11-91 OK

*No fish concerns 10s*

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: \_\_\_\_\_  
RESOURCE CONCERNS: Directionally fall away from hazardous soils in southwest part of unit and along V-notch at the northern boundary.

name: R. Wheeler date: 2/11/91  
WILDLIFE: \_\_\_\_\_  
RESOURCE CONCERNS: Loss of moderate and high value winter habitat and low high density winter range. Unit partially within estuary fringe.

name: M. Teuber date: 4/27/90  
RECREATION & VISUAL: \_\_\_\_\_  
RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: \_\_\_\_\_  
RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed By: \_\_\_\_\_

title: James S. Beard Beggs date: 2/18/93  
Interdisciplinary Team Leader

CMA-1900-05



# UNIT DESIGN CARD

Alternative 4  
UNIT # 223

Total  
ACRES 146

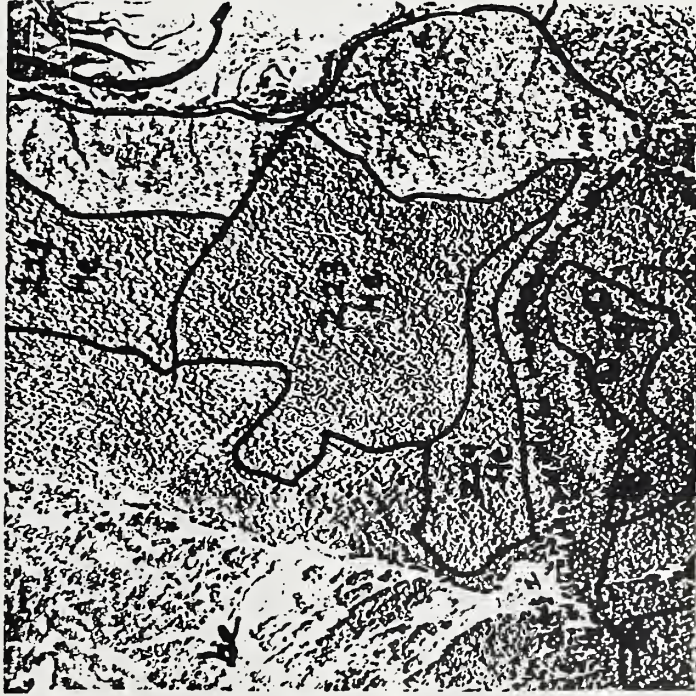
STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to visuals, recreation and soils. Stay out of extreme hazard soils along south and southwest boundaries. If logging occurs near V-norches, directionally fall timber away from them.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 725

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076-190-188

1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

Unit Boundary	Existing Spec Rd.
Landing	Planned Road
Split Line	Temporary spur
Full Suspension	Road closure
Partial Suspension	(after haul)
Stream	Streamside zone

SILVICULTURE  
RX SYNOPSIS  
Partial cut unit. Cut approximately 20% of the acreage with small (2-5ac.) group selection. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally, consider planting mixed conifer areas to Alaska cedar to retain current species composition. Average tree index is 25 (fair). Unit adjacent to old harvest unit. Richard R. Zelenka 2/14/91

TIMBER & LOGGING  
SYSTEMS  
RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to LTF in Sook Bay. If logging occurs near V-norches, directionally fall timber away from them.

name: Richard R. Zelenka date: 2/14/91

ROADS & ACCESS  
RESOURCE CONCERNS: FLY LOGS TO SOUTHWEST

name: A. Long date: 2/15/91

FISHERIES & HYDROLOGY  
RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS:  
RESOURCE CONCERNS: Recommend designing cut to avoid hazardous soils along the south and southwest boundary of the unit and directionally fall timber away from V-norches.

name: R. Kuehner date: 2/15/91

WILDLIFE:  
RESOURCE CONCERNS: Loss of downy woodpecker, marten habitat. Reduced impact to eastern kingbird, song sparrow may not be necessary.

name: M. J. Weber date: 2/15/91

RECREATION & VISUAL:  
RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL:  
RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By:

title: James S. Band Bayanaka date: 2/18/91  
Interdisciplinary Team leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 224 ACRES 34

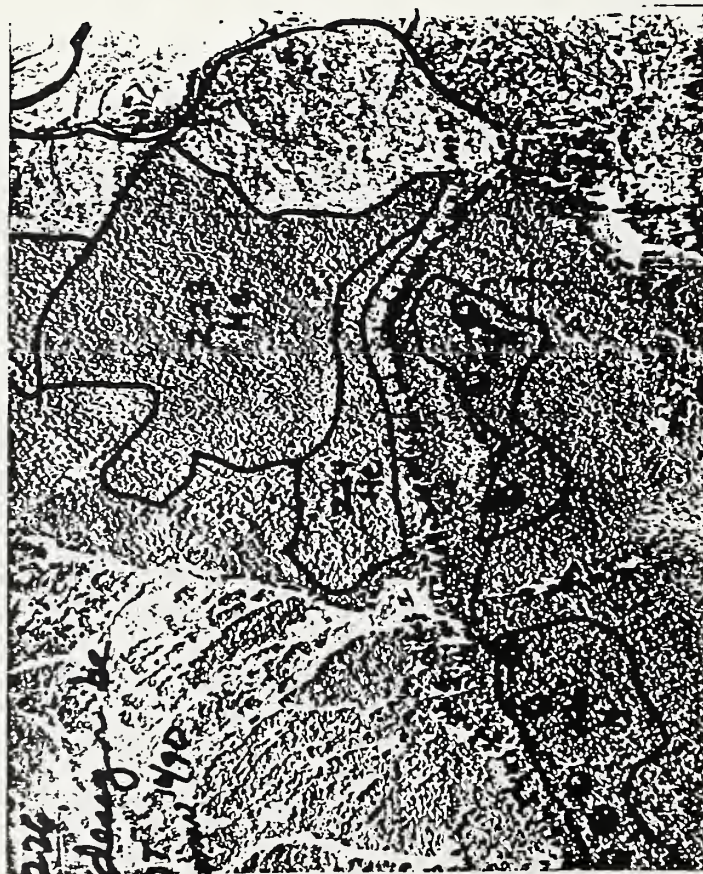
STATEMENT OF INTENT BY IDT: keep south boundary at the slope break or 100' from Class I stream whichever is greater. Avoid extreme hazard soils along north and northwest boundaries. Directionally sell away from V-notches.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 850PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/190-187

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 87 (fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. If possible, retain 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR THICKENED FOREST. Fly timber to DIRECTIONALLY sell away from V-notches. Fly timber to LTF in Sawok Bay.

name: Ray Belldate: 2-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: FLY LOGS AROUND TO SWATHED AT SAWOK LTF OR DOWN TO LANDING ON ROAD 75348.

name:

RESOURCE CONCERNS:

date: 2/15/91FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: All boundary line to Sawok LTF or 87 ft. or 100' yf

Pull back boundary to slope break along southern portion of unit. VNS.

name:

date:

## SOILS:

RESOURCE CONCERNS: Directionally fall away from V-notches along southern boundary and in central part of unit and away from hazardous soils as indicated on photo along northern boundary.

name: R. H. H. H.date: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate and high value deer and marten habitat.

name: M. J. Weberdate: 11/27/90RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

James S. Burns Bequaert  
Interdisciplinary Team Leader

date: 12/18/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 225 ACRES 38

## STATEMENT OF INTENT BY IDT:

Avoid extreme hazard soils east and west of unit, keep north east corner back 100' from Class I stream or to slope break if further.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 950PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/190-191  
1/4 QUAD ID:

## PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 89 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. If possible, retain 2 snags per acre for diversity. R. Zahrad & J. Zahrad

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

SYSTEMS DESIGN FOR DIRECTIONALLY FALL TIMBER AWAY FROM HAZARD GULLS AND STREAM BUFFERS.

name: Greg Kellydate: 2-11-91

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

POSSIBILITY OF BACK PIT LOCATED IN UNIT. ROAD WAS MINIMUM OF 100' FROM CLASS I STREAM. FUTURE HIGHEST POTENTIAL PAST UNIT.

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

ALUMINUM NO. BUFFER TO CLASS I STREAM, ALUMINUM UNIT BOUNDARY TO SLOPE BEHIND OF V. POINT AT WEST SIDE OF DR.

*No fish concerns. 198.*

name:

date:

## SOILS:

## RESOURCE CONCERNS:

hazardous soils as indicated on photo Directionally fall away from

name: R. Ahlbeck

## WILDLIFE:

## RESOURCE CONCERNS:

loss of high value deer and marten habitat

name: MT. Weber

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

date: 11/27/90

name:

date:

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

## Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 226 ACRES 86

STATEMENT OF INTENT BY IDT: stay 100' from Class I stream along north boundary or out of riparian area if further from stream. Split yard away from V-notches. Avoid extreme hazard soils at SE and SW corners.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 2150

PHOTO INFO: YR 19 76 FLT LN 34 STEREO PR 1076/140-191  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE Clearcut unit followed by natural regeneration. Site productivity is high with an average site index of 45 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity. *Predominant R. Zabriskie 2/15/91*

TIMBER & LOGGING RESOURCE CONCERNS: DESTROYED FOR DOWNHILL HIGHLEAD CARCE SYSTEMS

name: *Ray Kelly* DIRECTLY FEW TWO SPLIT YARD V-NOTCHES. date: 2-11-91

ROADS & ACCESS RESOURCE CONCERNS: KEEP ROAD MINIMUM 100' FROM CLASS I STREAM. POSSIBLE LOCATION OF RICE PITS ALONG ROAD IN UNIT

name: *J. Cook* date: 2/15/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: MAINTAIN 100' BUFFER ON NW CORNER, TO CLASS I STREAM. SPLIT YARD V-NOTCHES. DEC 1-11-91

No fish concerns. VGS.

name: date:

SOILS: RESOURCE CONCERNS: Split yard on V-notches and directionally fall away from hazardous soils along southwest and southeast boundaries

name: *R. Huescher* date: 2/11/91

WILDLIFE: RESOURCE CONCERNS: loss of high value deer and marten habitat.

name: *M. Weber* date: 11/27/90

RECREATION & VISUAL: RESOURCE CONCERNS:

name: date:

CULTURAL: RESOURCE CONCERNS:

name: date:

Reviewed By:

title: *Kevin S. Samuel Bergman* date: 2/18/91

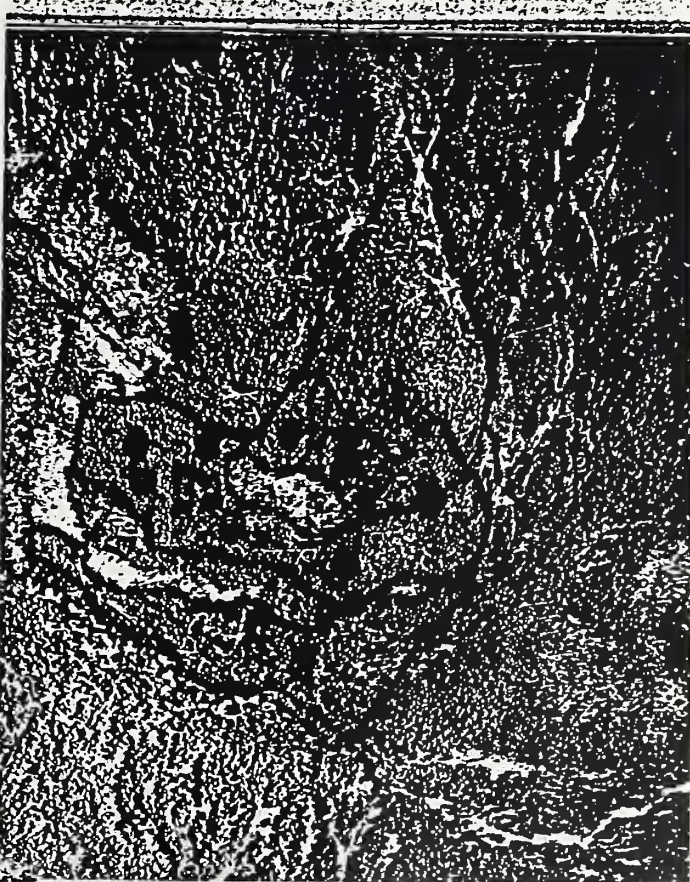
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 227 ACRES 32

STATEMENT OF INTENT BY IDT: Keep E boundary out of extreme hazard soils. Minimize soil disturbance on extreme hazard soils in the SW corner of unit. Possible visual concerns within unit.		SILVICULTURE Rx SYNOPSIS		Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 72 (fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. It is possible to retain 2 snags per quarter acre.	
UNIT DESIGN (PLANNED) LOG SYSTEM <u>H</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>300</u>		TIMBER & LOGGING SYSTEMS		RESOURCE CONCERNS: DESIGNED FOR DUNSMUIR HAZARD CABLE SYSTEMS. DUNSMUIR FELL AREA FROM MUSKEG.	
PHOTO INFO: YR <u>1976</u> FLT LN <u>34</u> STEREO PR <u>1074/91-122</u> 1/4 QUAD ID: _____		name: <u>George Lilly</u> date: <u>2-11-91</u>		ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY TWO TEMPORARY SPURS OFF OF ROAD 7733, KEEP ROAD ABOVE ROCK CLIFFS IN SOUTH PART OF UNIT.	
PLANNED (ORTHO PHOTO) SCALE: <u>1:15840</u>		name: _____ date: <u>2/1/81</u>		FISHERIES & HYDROLOGY RESOURCE CONCERNS: NO CONCERNS ON 1-11-91. <i>No fish concerns. Vgs.</i>	
		name: _____ date: _____		SOILS: _____ RESOURCE CONCERNS: directionally fall away from hazard soils in eastern part of unit.	
		name: <u>P. Huerfano</u> date: <u>2/1/91</u>		WILDLIFE: _____ RESOURCE CONCERNS: Loss of high value deer winter range and moderate value marten habitat.	
		name: <u>Michael Weber</u> date: <u>11/27/90</u>		RECREATION & VISUAL: _____ RESOURCE CONCERNS: _____	
		name: _____ date: _____		CULTURAL: _____ RESOURCE CONCERNS: _____	
		name: _____ date: _____		name: _____ date: _____	

LEGEND		UNIT BOUNDARY, NUMBER, + LOGGING METHOD	
CLASS I STREAM	(305) H	EXISTING ROAD	
CLASS II STREAM	---	PLANNED ROAD	
CLASS III STREAM	---		
BUFFER ZONE	---		
LANDING	(L)		

Reviewed By: John S. Burns Bengal  
by field crew. Unit size is subject likely to change during field layout.  
title: Interdisciplinary Team Leader date: 2/18/91



## UNIT DESIGN CARD

UNIT # 228		ACRES 8.3	
STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils between Unit 228 and 228. Visual concerns with unit possible.			
SILVICULTURE Rx SYNOPSIS Clearcut unit. Predominant plant series are western hemlock and mixed conifer, western hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska-cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 7 (fair). If possible, retain 2 snags per acre for diversity. Richard R. Ziegler 2/15/91			
TIMBER & LOGGING SYSTEMS DESIGNED FOR UNIT SYSTEM: DIRECTIONAL FELL Soils along west boundary. name: R. Ziegler date: 2-11-91		RESOURCE CONCERNS: No concerns DK 1-11-91	
ROADS & ACCESS name: R. Ziegler date: 2-11-91		RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 1-1-91 AND BY TEMPORARY SPURS OFF OF IT. POSSIBILITY OF ROCK PIT IN UNIT. SCRAPE ANY ROCK PITS BEFORE PLANTING VIEWS IN SADDLE PKY. date: 2/15/91	
FISHERIES & HYDROLOGY		No fish concerns. VGS.	
name:		date:	
SOILS:		RESOURCE CONCERNS: Directionally fall away from hazard soils along western boundary.	
name: R. Ziegler		date: 2/11/91	
WILDLIFE:		RESOURCE CONCERNS: Loss of low and high value deer winter-range and high value Marten habitat.	
name: Michael T. Weber		date: 11/2/90	
RECREATION & VISUAL:		RESOURCE CONCERNS:	
name:		date:	
CULTURAL:		RESOURCE CONCERNS:	
name:		date:	
Reviewed By:		Note field notes concerns for blind leads in unit due to heavily ground. High potential unit size on slope would change during project.	
title:		James S. Bernal Bayanable Interdisciplinary Team Leader date: 2/18/91	

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## UNIT DESIGN CARD

UNIT # 229

Total  
ACRES 60

STATEMENT OF INTENT BY IDT: Needs soil, hydro and fish review during layout. Keep 100' buffer on Class I stream. Unmapped channels possible. Most of unit is riparian, use down logs to minimize soil disturbance during yarding.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SH EST VOLUME/AC 36 TOT VOLUME 1728PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/191-192

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- ⊙ LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Partial w/ unit. Cor approximately 80% of the acreage. Areas not cor will be stream buffers on stream channels to be identified at time of unit layout. Preliminary plant series are Sitka spruce and western hemlock. Plant Sitka spruce areas to provide adequate regeneration. Western hemlock areas should regenerate naturally. Site productivity is high average. Site index is 97 (fair). Consider for precommercial thinning in 20-25 yrs. PR2 7/15/91

TIMBER & LOGGING  
SYSTEMS

PENDING REVIEW AND APPROVAL AT LAPOIT BY RESOURCE SPECIALIST(S). OTHERWISE CABLE SYSTEM SHOULD BE CONSIDERED. THE CABLE LINES AS MUCH AS POSSIBLE GIVEN FLAT TERRAIN, USING THEM LOGS name: Plunging Falls TO PROTECT SOIL. date: 7-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY TEMPORARY SPUR OFF OF ROAD 7733 NO BACK PITS SHOULD BE BUILT HERE. HYDROLOGY AND HISTORICS TO BE INVOLVED WITH ROAD LAYOUT.

## name:

date: 3/15/91FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: maintain minimum 100' buffer along minimum Class I stream. Small Class I channel bisects the unit from north to south buffer 100'. Also maintain 100' buffer along Class I stream near N. boundary. Unconfined outwash channels found in NE portion of unit present erosion concerns. Specialist should review layout. date: 10/19/90 name: S. Paulsen

RESOURCE CONCERNS: much of the unit is on elevated glacial moraines with 50' internal relief. Numerous kettle ponds and marshes present in depressions. Not suited to should yarding SVP 10/19/90 of concern name: P. Ault date: 11/7/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer, other, brown bear and marten habitat. Unit is riparian habitat.

name: Michael J. Weber

date: 11/27/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

## name:

date:

## CULTURAL:

RESOURCE CONCERNS:

## name:

date:

Reviewed By: Sub. Hydrology and Fisheries suggest & be present during field layout.

James S. Bland Brynaski  
Interdisciplinary Team Leader

title:

date: 2/18/91


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## UNIT DESIGN CARD

UNIT # 230 ACRES 39

ACRES 39

<p>STATEMENT OF INTENT BY IDT: possible unmapped channels--fish and hydro review needed during layout, keep 100' from Class I stream along west boundary. stay out of extreme hazard soils along NE boundary. split yard V-notches. One end log suspension would minimize soil disturbance</p>	<p>LOG SYSTEM <u>LS</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>975</u></p> <p>PHOTO INFO: YR <u>1976</u> FLT LN <u>34</u> STEREO PR <u>1076/192</u></p> <p>1/4 QUAD ID: _____</p>	<p>PLANNED (ORTHO PHOTO) SCALE: <u>1:15840</u></p> 
<p>LEGEND</p>		
<p>CLASS I STREAM CLASS II STREAM CLASS III STREAM BUFFER ZONE LANDING</p>	<p>UNIT BOUNDARY, NUMBER, + LOGGING METHOD</p> <p>EXISTING ROAD PLANNED ROAD</p>	



## UNIT DESIGN CARD

UNIT # 231 ACRES 31

## STATEMENT OF INTENT BY IDT:

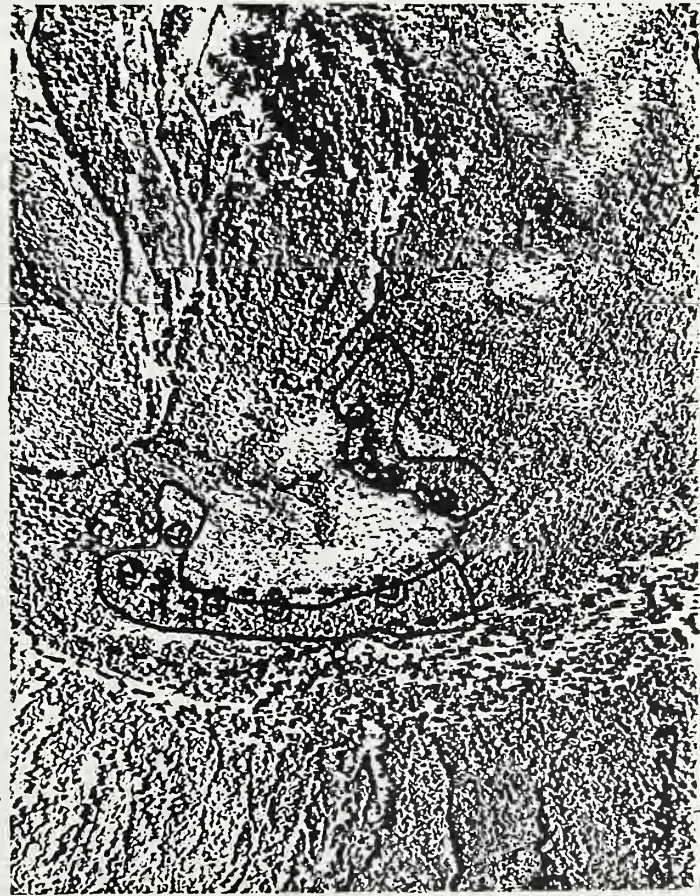
Keep NE boundary at the slope break of U-notch.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 403PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/192

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

LEGEND

- - - - - CLASS I STREAM  
 - - - - - CLASS II STREAM  
 - - - - - CLASS III STREAM  
 - - - - - BUFFER ZONE  
 - - - - - LANDING

(305 H)

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

- - - - - EXISTING ROAD  
 - - - - - PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock and mixed conifer. western hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska-cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 64 (fair). If possible, require 2 snags per acre for diversity. *Revised R. Ziegler 2/15/91*

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR DOMESTIC highland CABLE SYSTEMS. Directionally fall timber away from U-notch along northeast boundary. Tailholds and tree pile draws may be a problem due to adjacent muskrats. *name: (Roughly) date: 2-11-91*

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

UNIT ACCESSED BY ROAD 7933. A SHARP TEMPORARY SPUR WILL BE NEEDED TO REACH THE EAST LANDING. *name: (Roughly) date: 2-11-91*

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

ADJACENT TO SLOPE BREAK OF U-NOTCH. DR 1-10-93. *name: (Roughly) date: 2/15/91*

Pull back to slope break along NE boundary. 1998. *name: (Roughly) date: 2/15/91*

## name:

## SOILS:

## RESOURCE CONCERNS:

Keep North-east boundary of U-notch and directionally fall away from notch. *name: (Roughly) date: 2/15/91*

## name: (Roughly)

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of moderate and high value deer winter-range and high value marten habitat. *name: Michael Tuckner date: 11/27/90*

## name: Michael Tuckner

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

*name: (Roughly) date: 2/15/91*

## name:

## CULTURAL:

## RESOURCE CONCERNS:

*name: (Roughly) date: 2/15/91*

## name:

## CULTURAL:

## RESOURCE CONCERNS:

Reviewed By: *note concern for adequate buffer the draw along muskrat at landings.* *name: (Roughly) date: 2/15/91*

## title:

## Interdisciplinary Team Leader

## RESOURCE CONCERNS:

*name: (Roughly) date: 2/15/91*

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 232 ACRES 46

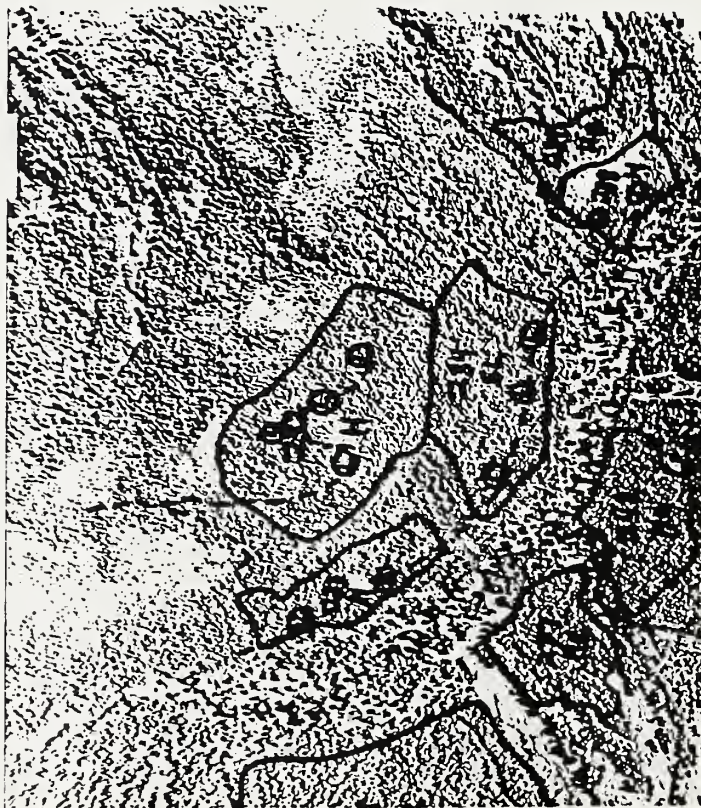
STATEMENT OF INTENT BY IDT: *Approved extreme hazard soils SW of unit,*

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 598PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/193-194

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
 PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planning mixed conifer areas with alaska cedar to maintain current species composition. Try to maintain integrity of muskeg in center of unit. Site productivity ranges from low to moderate with an average site index of 70. It is possible to thin 25% per acre for class 1.

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIG(ued) For Downstream and upland. CARE logging systems. Additional landings may be needed to log unit. Directionally fall timber away from muskeg in center of unit and (possibly) to not yard logs through it. date: 2-11-91

ROADS & ACCESS RESOURCE CONCERNS: UNIT IS ACCESSED BY TWO TEMPORARY STRIPS OFF OF ROAD 7733. NO CONCERNS.

name:

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No concerns DE 1-11-91

date: 2/15/91

No fish concerns 198.

name:

## SOILS:

## RESOURCE CONCERNS:

Directionally fall away from hazardous soils in southwest part of unit.

date:

name: R. Huescher

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high-value deer and marten habitat.

date: 2/10/91

name: Michael J. Weber

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

date: 11/27/90

name:

## CULTURAL:

## RESOURCE CONCERNS:

date:

name:

date:

Reviewed By: field notes. wh. typical "ribbony-top" terrain. High probability for cholla. Need profiles to assess unit feasible to log.

Interdisciplinary Team Leader  
 title: *James S. Beard Bengard*  
 date: 2/13/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 233 ACRES 22

STATEMENT OF INTENT BY IDT: Fish/Hydro review needed during layout. Keep 100' buffer in Class I stream. Avoid extreme hazard soils above unit and riparian area to the west.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 236

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/193192-94  
1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15040



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 79 (fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/deer club. If possible, retain 2 snags per acre for diversity. Redwood R. 2/15/91

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR DOWNHILL highlead CABLE

## SYSTEMS

Directionally fall timber away from stream buffer along west boundary and hazard soils along northeast boundary. Date: 2-11-91

## ROADS &amp; ACCESS

ROAD 7733. ROCK PIT MAY BE POSSIBLE IN UNIT.

## name:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

AWAITHAN 100' BUFFER ON CLASS I STREAM.  
POSSIBLE UNWANTED SIDE CHANNELS, HYDRO/FISH  
REVIEW REQUESTED  
DA 4-11-91

name: J. L. date: 2/15/91

100' min or windfall buffer along Class I stream on name: W. portion of unit. Field review requested 2/22/91

## SOILS:

RESOURCE CONCERNS: Directionally fall away from hazardous soils along northeast boundary.

## name: R. H. H. date: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer and marten habitat. Unit avoids riparian habitat along Sweet Creek.

name: Michael J. Weber date: 4/27/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

## name:

## CULTURAL:

RESOURCE CONCERNS:

## name:

Reviewed By:

James S. Burns, Supervisor  
Interdisciplinary Team Leader

## title:

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: Fish/Hydrin review needed (during layout). Avoid extreme hazardous E and W of unit and riparian area south of unit. Stay 100' from Class I stream. Split yard V-notch.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 850

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/1073, 112, 117

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15000



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- Q LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
--- PLANNED ROAD

UNIT # 234 ACRES 34

SILVICULTURE Rx SYNOPSIS Clearcut unit. Predominant plant species are western hemlock and mixed conifer, mixed conifer areas should regenerate naturally. Consider planning mixed conifer areas with alaska-cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 7 (fair). If possible, retain 3 cngs per acre for eligibility. Redwood R. Zeligovsky 2/15/91

## TIMBER &amp; LOGGING

SYSTEMS

DESIGNED FOR REMOTE SAGGING CABLE SYSTEMS. REQUIRE ONE-AND SUPERVISION. DIRECTIONALLY FEEL AND SPLIT YARD V-NOTCH. Directionally fall timber away from stream. Buffer, minimize disturbance to date: 2-11-91

name: Frank Kelly

ROADS & ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 2733. THE FIRST LANDING WILL ALSO BE THE MOST ACCESSIBLE TO FLY LOGS FROM HELICOPTER UNITS TO. AREA OF POSSIBLE BACK PITS ALSO.

name: Frank Kelly

date: 2/15/91

FISHERIES & HYDROLOGY

RESOURCE CONCERNS: When Submitting Downcut, Review Review of Unit, 100' buffer 17 Class I Valley Bottom, Field Review Required 1-10-91.

100' min. riparian buffer along Class I stream. Field review requested. 888.

name: Frank Kelly

date: 2/15/91

SOILS:

RESOURCE CONCERNS: Split yard on V notch as shown in photo. Directionally fall away from hazardous soils along ac. 100' and southeast boundaries.

name: P. H. Hackett

date: 2/10/91

WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer and marten habitat. Riparian area along Sawtooth Creek avoided.

name: Michael Tuckner

date: 11/22/90

RECREATION & VISUAL:

RESOURCE CONCERNS:

name:

CULTURAL:

RESOURCE CONCERNS:

name:

Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



# Alternatives 2, 4

## UNIT DESIGN CARD

Total  
ACRES 118

UNIT # 235

STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to visuals, recreation and hydrology. Keep north boundary at slope break of U-notch, clear boundary cut of riparian area. Directionally fall timber away from U-notches in unit and along unit boundaries.

### UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 575  
 PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076-193  
 1/4 QUAD ID: 192/194

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



### LEGEND

Unit Boundary —  
 Landing (L)  
 Split Line ...  
 Full Suspension F  
 Partial Suspension P  
 Stream ←  
 Existing Spec Rd. —  
 Planned Road - - - - -  
 Temporary spur - - - - -  
 Road closure X  
 (after haul) X  
 Streamside zone ~~~~~

### SILVICULTURE RX SYNOPSIS

Partial cut unit with small (2-5 acre) group  
 Selection cuts. Cut areas should regenerate naturally.  
 Site productivity ranges from low to moderate with an average  
 site index of 76 (Fair). Predominant plant series are western  
 hemlock and mountain hemlock. Lower slopes have high archaeology potential.  
 Riparian zone. 2/14/91

### TIMBER & LOGGING SYSTEMS

RESOURCE CONCERNS: No road access so helicopter  
 yard with fly timber to landing along road  
 timber away from them.  
 name: Richard R. Zaborie date: 2/14/91

### ROADS & ACCESS

RESOURCE CONCERNS: UTILIZE LANDING IN UNIT  
334 TO FLP LOGS TO.

### name:

### FISHERIES & HYDROLOGY

### RESOURCE CONCERNS:

name: J. Lutz date: 2/15/91

### name:

### SOILS:

RESOURCE CONCERNS: Directionally fall away from  
 U-notches and recommend that east boundary is out of the  
 riparian zone.  
 name: R. H. Huerfano date: 2/15/91

### WILDLIFE:

### RESOURCE CONCERNS:

and winter habitat - snag retention maybe unnecessary.  
 name: M. J. Weber date: 2/15/91

### RECREATION & VISUAL:

### RESOURCE CONCERNS:

name: M. J. Weber date: 2/15/91

### name:

### CULTURAL:

### RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

### name:

### Reviewed By:

Interdisciplinary Team Leader

### title:

James S. Bunn-Bugarski date: 2/18/91

CMA-1900-05



# Alternatives 3, 5

## UNIT DESIGN CARD

UNIT # 235 ACRES 118

STATEMENT OF INTENT BY IDT: Keep N boundary at slope break of V-notch, E boundary out of riparian area, S boundary at the first V-notch north of the slide chute. Slope S boundary to slide chute if timber between chute & V-notch not windfirm. Directionally fall timber away from V-notches.

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 2950  
 PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/193, 194  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15840



### LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
 Rx SYNOPSIS Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 76 (fair). Predominant plant series are western hemlock and mountain hemlock. Predominant plant associations are western hemlock/blueberry and mountain hemlock/blueberry/cassiope. If possible, retain 2 snags per acre for diversification. Richard R. Johnson 2/15/91

TIMBER & LOGGING SYSTEMS  
 DESIGNER FOR HELICOPTER LOGGING SYSTEMS.  
 DIRECTIONALITY Fall Timbering Away From V-NOTCHES. Fly timber 12 to landing along road below unit.  
 name: Richard R. Johnson date: 2-11-91

ROADS & ACCESS  
 RESOURCE CONCERNS: UTILIZE LANDING IN UNIT 234 TO FEB 1965 TO.

FISHERIES & HYDROLOGY  
 RESOURCE CONCERNS:  
 DIRECTIONALITY Fall in V-NOTCHES, KEEP NORTH BOUNDARY TO SLOPE BREAK OF V-NOTCH, DR 1-11-91  
 name: Richard R. Johnson date: 2/15/91

Soil concerns. VFS.

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: \_\_\_\_\_  
 RESOURCE CONCERNS: Directionally fall away from V-notches.

name: R. Johnson date: 1/1/11  
 WILDLIFE: \_\_\_\_\_  
 RESOURCE CONCERNS: Loss of moderate and high value marten habitat and low and high value deer winter range.  
 name: Michael J. Weber date: 11/27/90

RECREATION & VISUAL:  
 RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 CULTURAL: \_\_\_\_\_  
 RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By:

title: James S. Burnham Bayou date: 2/18/91  
 Interdisciplinary Team Leader

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## UNIT DESIGN CARD

UNIT # 237 ACRES 27

STATEMENT OF INTENT BY IDT: keep SE boundary at slope break of V notch, keep E boundary out of riparian area. Pull N boundary back to V notch away from slide chute if timber left windfirm.		SILVICULTURE Rx SYNOPSIS Clearcut unit, Predominant plant species are western hemlock and Sitka-spruce. Western hemlock areas should regenerate naturally. Sitka-spruce areas should be planted with Sitka-spruce to ensure adequate stocking. Site productivity ranges from moderate to high with an average site index of 89 (trim). If possible, plant 3 spruce per acre for diversity.	
UNIT DESIGN (PLANNED) LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 675 PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/193, 1984 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840		TIMBER & LOGGING SYSTEMS DESIGNED FOR REGENERATED LOGGING 54812M3. Fly timber to landing along road below unit. Directionally fall timber away from V-notches inside unit, along unit boundary and away from stream buffers along unit boundary. name: <i>Kayfully</i> date: 2-11-91	
ROADS & ACCESS 234 TO FLY LOGS RD.		RESOURCE CONCERNS: UTILIZE LANDING IN UNIT	
name: <i>J. Carter</i> date: 2/15/91		name: <i>J. Carter</i> date: 2/15/91	
FISHERIES & HYDROLOGY		RESOURCE CONCERNS: <i>Min. flow in 1st buffer or 12 Super-Buck and Re-It.</i>	
name: <i>Michael J. Weber</i> date: 2/11/91		name: <i>Michael J. Weber</i> date: 2/11/91	
SOILS: <i>V-notches along northwest and southeast boundaries</i>		RESOURCE CONCERNS: <i>Loss of high value deer and marten habitat.</i>	
name: <i>Michael J. Weber</i> date: 11/27/90		name: <i>Michael J. Weber</i> date: 11/27/90	
WILDLIFE: <i>and marten habitat.</i>		RECREATION & VISUAL: <i>and marten habitat.</i>	
name: <i>Michael J. Weber</i> date: 11/27/90		name: <i>Michael J. Weber</i> date: 11/27/90	
CULTURAL: <i>and marten habitat.</i>		RESOURCE CONCERNS: <i>and marten habitat.</i>	
name: <i>Michael J. Weber</i> date: 11/27/90		name: <i>Michael J. Weber</i> date: 11/27/90	
Reviewed By: <i>James S. Burn</i>		Reviewed By: <i>James S. Burn</i>	
title: <i>Interdisciplinary Team Leader</i>		title: <i>Interdisciplinary Team Leader</i>	
date: 2/13/91		date: 2/13/91	

GMA-1900-05



## UNIT DESIGN CARD

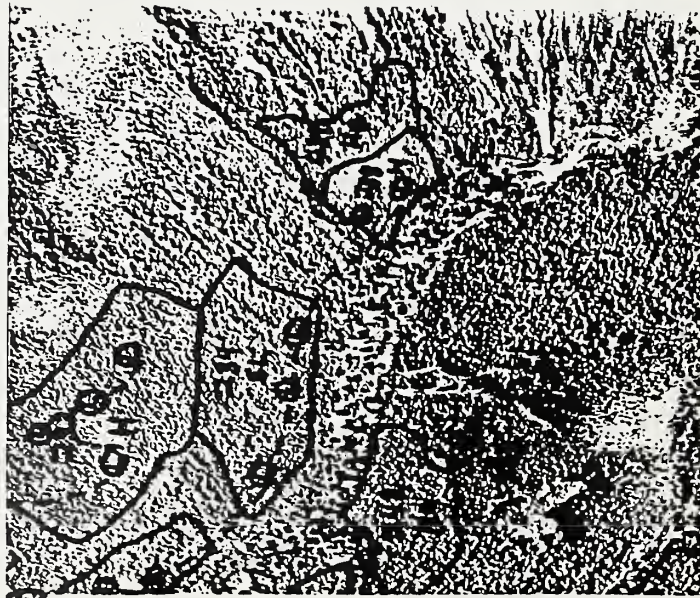
UNIT # 238 ACRES 16

STATEMENT OF INTENT BY IDT: Keep NW & SE boundary at the slope break of V-notches and SW boundary out of riparian area. Fish/Hydro field review needed during layout.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 400PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/193

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840

LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- ① LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305  
H

EXISTING ROAD  
 ---  
 PLANNED ROAD

## SILVICULTURE

## Rx SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity is moderate with an average site index of 34 (Fair). Pseudotsuga plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/deciduous club. If possible, retain 2 snags per acre for diversity. Richard R. Zaborie

## TIMBER &amp; LOGGING SYSTEMS

Resource concerns: Unit designed for lambskill highlead cable systems. Potential for blindleads so unit may become snags at time of layout. Directionally fall timber away from V-notches. Split V-notches in unit. Richard R. Zaborie

## ROADS &amp; ACCESS

Resource concerns: Unit accessed by Road 7733. A short temporary spur may be added on west side of unit.

## FISHERIES &amp; HYDROLOGY

Resource concerns: Riparian snags, trees to North of unit. V-notches in NW, SE sides. Full unit out of riparian area. Dec 1-11-91

## name:

name: P. Huetten date: 2/1/91

## SOILS:

Resource concerns: Directionally fall away from V-notches along Northward and southeast boundaries

## name:

name: P. Huetten date: 2/1/91

## WILDLIFE:

Resource concerns: Loss of moderate and high value deer and marten habitat. Riparian area along Sawok Creek avoided.

## name:

name: Michael J. Weber date: 11/27/90

## RECREATION &amp; VISUAL:

Resource concerns:

## name:

name: Michael J. Weber date: 11/27/90

## CULTURAL:

Resource concerns:

## name:

name: Michael J. Weber date: 11/27/90

## Reviewed By:

Reviewed By: Note concerns for potential blindleads. Unit size/shape would be change if blindleads are clear.

## title:

title: James S. Bernal Bernal date: 2/18/91  
Interdisciplinary Team Leader

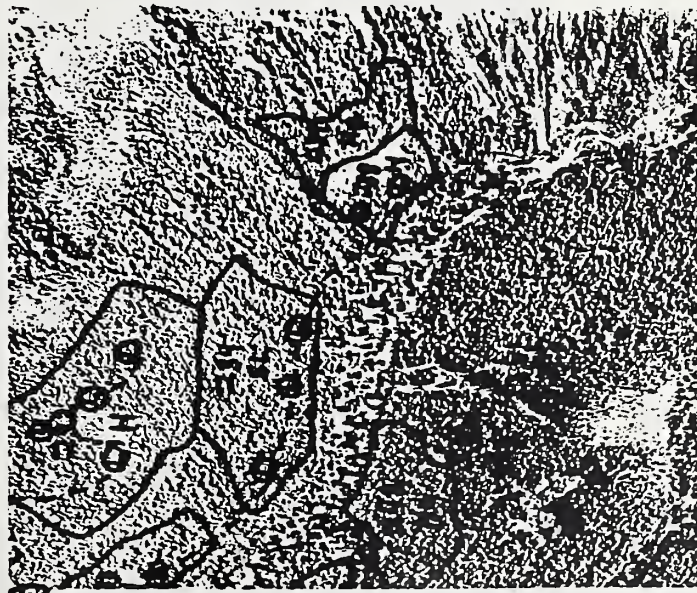
CMA-1900-05



## UNIT DESIGN CARD

UNIT # 239 ACRES 17

STATEMENT OF INTENT BY IDT: Keep NW &amp; SE boundaries at slope breaks of V-notches. Avoid extreme hazardous soils above unit.

UNIT DESIGN (PLANNED)  
LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 425PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/1931921A  
1/4 QUAD ID: \_\_\_\_\_PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS  
Clearcut unit followed by natural regeneration. Site productivity is moderate with an average site index of 84 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/devils club. If possible, retain 3 snags per acre for diversity. Richard R. Zabriskie 2/15/91

TIMBER & LOGGING  
SYSTEMS  
DESK-AGED FOR REDUCED LOGGING SYSTEMS. Fly timber to landing along road below unit.

name: Ray Lilly

ROADS & ACCESS  
RESOURCE CONCERNS: UTILIZE THE FIRST LANDING IN UNIT 239 AS A LANDING IN UNIT 238 TO FEED LOGS TO. date: 2-11-91

FISHERIES & HYDROLOGY  
RESOURCE CONCERNS: MINOR BOUNDARY NO SLOPE BACK TO V-NOTCH NW & SE SIDES. date: 2/15/91

SOILS:  
UNIT ON 3 sides. Directionally fall away from those areas as indicated on photo. name: R. Huxel date: 2/11/91

WILDLIFE:  
deer and mountain habitat. name: Michael Twibee date: 11/27/90

RECREATION & VISUAL:  
Loss of moderate value. name: Michael Twibee date: 11/27/90

CULTURAL:  
name: \_\_\_\_\_ date: \_\_\_\_\_

RESOURCE CONCERNS:  
name: \_\_\_\_\_ date: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_

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name: \_\_\_\_\_ date: \_\_\_\_\_



## UNIT DESIGN CARD

UNIT # 240 ACRES 12

## STATEMENT OF INTENT BY IDT:

Directionally fall away from notches.

SILVICULTURE Clearcut unit followed by natural regeneration.  
 RX SYNOPSIS Site productivity is high with an average site index of 45 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. It possible retain 2 snags per acre for diversity.  
 Timber & Logging DESIGNED for (RECORDED) logging systems. Fly timber to  
 DIRECTIONS: Few away from V-notches. Fly timber to landing along road north of unit.  
 name: *King Hill* date: 2-11-91  
 ROADS & ACCESS UTILIZE EXISTING FIRST LANDING IN UNIT 234 TO FLY LOGS TO.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 156

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/193, 194

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

name:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

DIRECTIONAL FALL ON V-NOTCHES DK 1-11-91

date: 2/11/91

Topich concerns 008.

name:

SOILS:

RESOURCE CONCERNS:

Directionally fall away from V notch along western boundary and away from hazardous soils along northern boundary.

date:

name: R. Hueske

WILDLIFE:

RESOURCE CONCERNS:

Loss of high-value habitat and moderate and high value deer winter range.

date: 2/11/91

name: Michael J. Weber

RECREATION &amp;

VISUAL:

RESOURCE CONCERNS:

date: 11/27/90

name:

CULTURAL:

RESOURCE CONCERNS:

date:

name:

Reviewed By:

date:

title:

James S. Band Beverski  
Interdisciplinary Team Leader

date: 3/18/91

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## UNIT DESIGN CARD

UNIT # 241 ACRES 27

STATEMENT OF INTENT BY IDT: Avoid extreme hazard soils NE of unit. Directionally fall away from notches.

UNIT DESIGN (PLANNED)  
 LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 675  
 PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/193, 194  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15,000



## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ||||| CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
 (305 H)  
 --- EXISTING ROAD  
 - - - - - PLANNED ROAD

SILVICULTURE Clearcut unit followed with natural regeneration. Site productivity ranges from low to high with an average site index of 50 (fair). Predominant plant series are western hemlock and mountain hemlock. Predominant plant series are western hemlock/blueberry and mountain hemlock/blueberry/copper bush. It is possible, retain 3 snags per acre for diversity. Reland R. Zelnick 2/15/91

TIMBER & LOGGING SYSTEMS RESOURCE CONCERNS: No road access. Designed for helicopter logging systems.

DIRECTIONALITY Fell away from notches. Fly timber to landing along road north of unit.

name: Stoughton date: 2-11-91  
 ROADS & ACCESS RESOURCE CONCERNS: UTILIZED FIRST LANDING IN UNIT 234 TO FLT LOGS TO. NO CONCERNS

name: J. Lantz date: 2/15/91  
 FISHERIES & HYDROLOGY RESOURCE CONCERNS: Directional fall in V-notches. BX 1-4-91

No fish concerns. Vgs.

name: R. Huerfano date: 2/11/91  
 SOILS: RESOURCE CONCERNS: Directionally fall away from hazardous soils along northeast boundary

name: R. Huerfano date: 2/11/91  
 WILDLIFE: RESOURCE CONCERNS: Loss of lowland moderate value deer habitat and moderate and high value marten habitat.

name: Michael J. Jurek date: 11/27/90  
 RECREATION & VISUAL: RESOURCE CONCERNS:

name: Michael J. Jurek date: 11/27/90  
 CULTURAL: RESOURCE CONCERNS:

name: Michael J. Jurek date: 11/27/90  
 Reviewed By: Michael J. Jurek date: 11/27/90

title: James S. Burns Biological Interdisciplinary Team Leader date: 2/18/91



## UNIT DESIGN CARD

UNIT # 242 ACRES 26

STATEMENT OF INTENT BY IDT: stay at least 10' from Class I stream to the North and Class II stream between units 237 and 242. Directionally fall away from V-notches.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 650PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/193,194  
1/4 QUAD ID: \_\_\_\_\_PLANNED (ORTHO PHOTO) SCALE: 1:15840

LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Prebarnant plant series are western hemlock and Sitka spruce. Western hemlock areas should regenerate naturally. Plant Sitka spruce areas with spruce to ensure adequate restocking. Site productivity ranges from moderate to high with an average site index of 88 (fair). If possible, retain 1 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR HELICOPTER LOGGING SYSTEMS.  
Directionally fall away from V-notches. Fly timber to landing along road across stream from unit. Directionally fall timber name: Hand-fall away from stream buffers. date: 2-11-91

ROADS & ACCESS RESOURCE CONCERNS: UTILIZE FIRST LANDING IN UNIT 234 TO FLR LOGS TO. NO CONCERNS.

name: \_\_\_\_\_

date: 2/18/91FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:  
MAINTAIN 10' BUFFER ON NORTH SIDE,  
DIRECTIONALLY FELL AWAY FROM V-NOTCHES. DEC 1-11-91

Pull back NE boundary 100' min. or windfall buffer on Class I and to slope break on Class II stream. V-notches.

name: \_\_\_\_\_

SOILS: RESOURCE CONCERNS: Directionally fall away from V-notches and hazardous soils along southern boundary.

name: R. Muellerdate: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS: loss of high value deer and warden habitat

name: Michael J. Weberdate: 11/22/90RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name: \_\_\_\_\_

date: \_\_\_\_\_

## CULTURAL:

RESOURCE CONCERNS:

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

title: \_\_\_\_\_

James S. Burns Blugowski  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

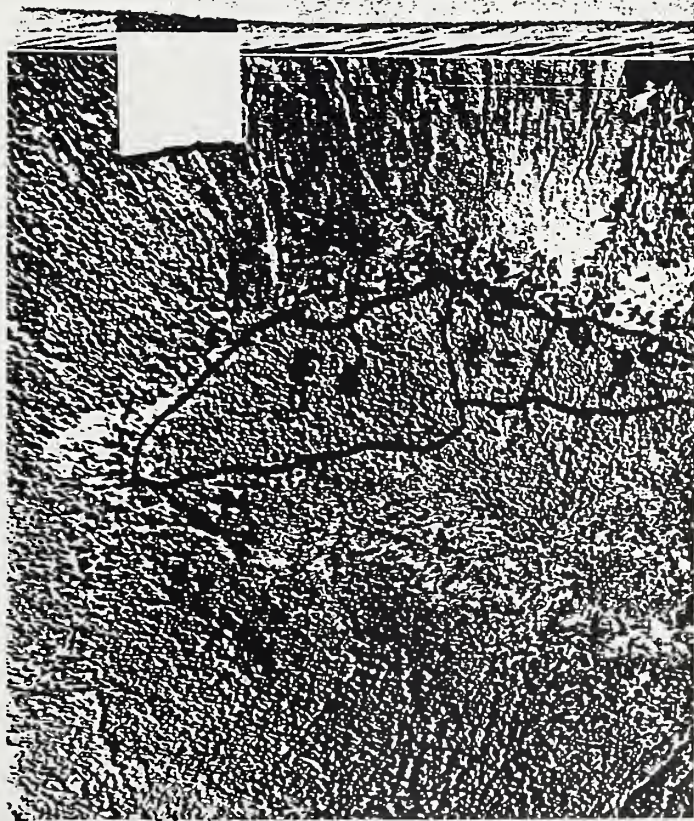
UNIT # 244 ACRES 115

STATEMENT OF INTENT BY IDT: Keep a windfall boundary along stream to the east. Avoid extreme hazardous above unit. Directionally fall away from V-notches. Don't try to get landings for highlead. Fish review needed during layout.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 2375

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/194-193  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15840

LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD305  
HEXISTING ROAD  
PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 94 (Fair). Consider unit for precommercial thinning in 20-25 years. Precommercial plant series are western hemlock and mountain hemlock. If possible, retain 2 snags per acre for diversity.

Richard R Zabrane 2/15/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR HELICOPTER LANDING SYSTEMS. DIRECTIONALITY FELL AWAY FROM V-NOTCHES. No suitable landing locations. Directionally fall timber away from stream buffers.

name: Randy Kelly date: 2-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZE FIRST LANDING IN UNIT 234 OR A LANDING IN UNIT 238 TO FLY LOGS TO

name: \_\_\_\_\_ date: 2/15/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

MAINTAIN LOW BUFFER, POSSIBLE UNIMPAIRED SIDE CHANNELS FIELD REVIEW REQUESTED 1-11-91 DIC.

Pull boundary back 100' min. or to windfall buffer  
name: along class 1. Possible unlogged channels date: \_\_\_\_\_

## SOILS:

RESOURCE CONCERNS: Field review requested 1-11-91  
Directionally fall away from V-notches and away from hazardous soils along western and eastern boundaries.

name: P. L. Hunsaker date: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of low, moderate and high value deer habitat. Loss of moderate and high value martin habitat. Riparian habitat along stream avoided.

name: M. J. Hunsaker date: 11/27/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

## CULTURAL:

## RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

## Reviewed By:

Field review request by Fisheries biologist

title: \_\_\_\_\_

James S. Burns-Berschke  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

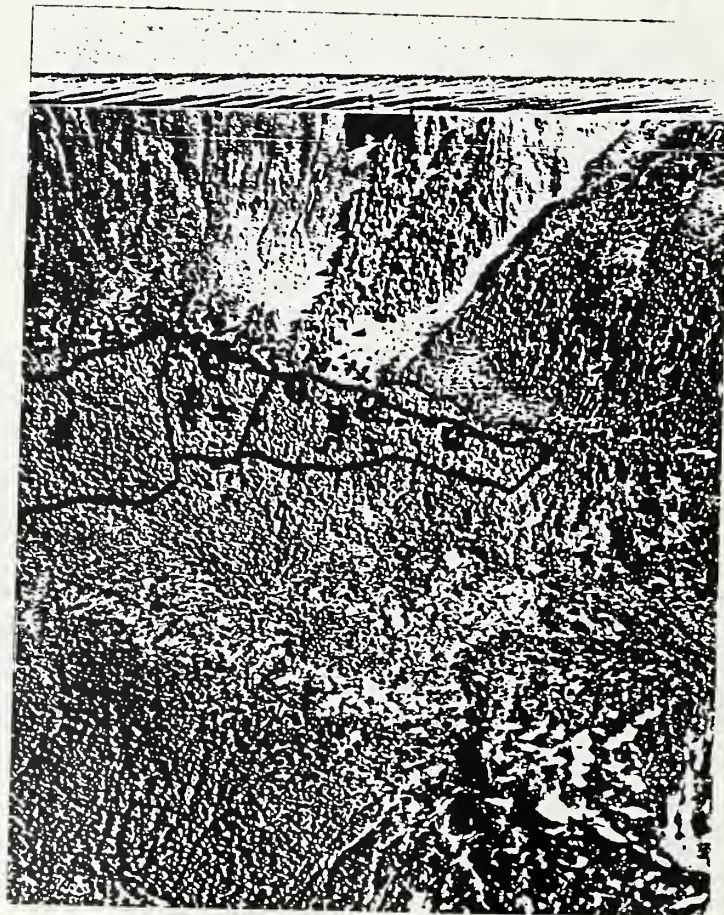
UNIT # 246 ACRES 3.7

STATEMENT OF INTENT BY IDT: Fish review during layout. Need to stay out of riparian area along class I stream or 100' away whichever is greater. Split yard V-notches.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 925

PHOTO INFO: YR 1976 FLT LN 34 STEREO PR 1076/194 + 193  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
||||| BUFFER ZONE  
① LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity is moderate with an average site index of 83 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blackberry/deerbrush club. It is possible to retain 3 snags per acre for diversity. Redland R. 2/15/91

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

DESIGNED FOR DOWNHILL UNTHREADED CABLE SYSTEMS. DIRECTIONALLY FELL AND SPLIT YARD V-NOTCHES. Directionality fell timber away from stream buffers.

name: Gregg Kelly date: 2-11-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7233, KEEP ROAD MINIMUM 100' FROM CLASS I STREAM. POSSIBLE RUCK PIT ALONG ROAD

name: Cent date: 2/15/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: MAINTAIN WET BUFFER TO WHOLE BOTTOM STREAMS. SPLIT YARD V-NOTCHES. FISH FIELDS REVIEW REQUIRED DK 1-11-91

Maintain 100' min. windfall buffer.

name: Field review requested, 1988 date: \_\_\_\_\_

SOILS: RESOURCE CONCERNS: Split yard on V-notches and maintain stream buffer.

name: R. Huerfano date: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS: Losos high value marten habitat and low high value deer winter range. Riparian area along stream avoided

name: M. T. Weber date: 11/27/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

## CULTURAL:

RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By: Need fisheries assistance during layout.

title: \_\_\_\_\_

James S. Burns Bengtson  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05

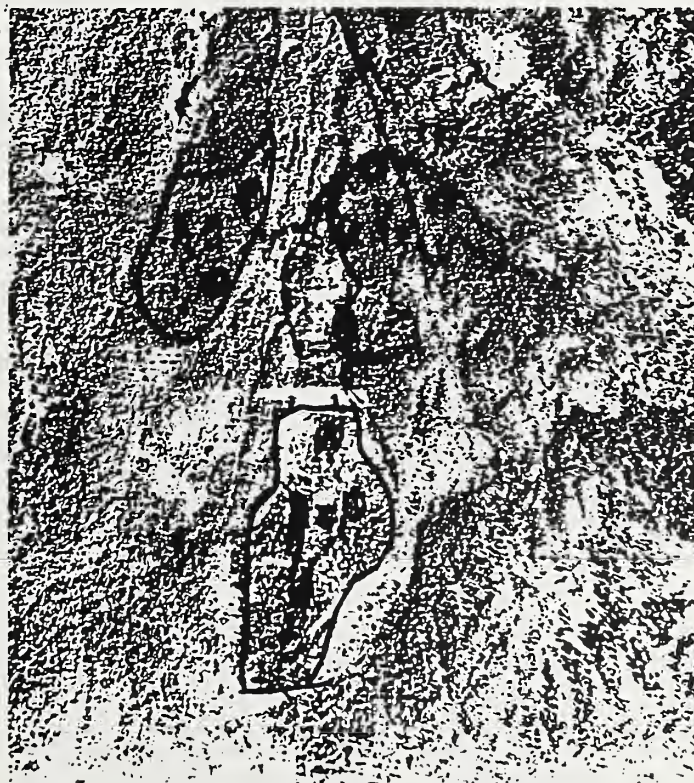


## UNIT DESIGN CARD

UNIT # 247 ACRES 39

STATEMENT OF INTENT BY IDT: keep north and east boundaries at the slope breaks above the Class III streams or 50' if further. Recreation visual concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 507PHOTO INFO: YR 1976 FLT LN 37 STEREO PR 276/3041/4 QUAD ID: 305PLANNED (ORTHO PHOTO) SCALE: 1:15000

## LEGEND

CLASS I STREAM

CLASS II STREAM

CLASS III STREAM

BUFFER ZONE

LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305)  
H

EXISTING ROAD

PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS: Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 81 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry, shield fern and western hemlock/blueberry. If possible, retain 1 snag per acre for diversity.

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: DESIGNED FOR UPLAND AND DOWNLAND highland CARE SYSTEMS. ABRECTIONARY FELL AND SPLIT WARD V-NOTCH.

name: Handy Kellydate: 2-11-91

ROADS & ACCESS: RESOURCE CONCERNS: USE CULTIVATORS IN ALL CLASSES OF CROSSINGS. POSSIBILITY OF ROCK CLIFFES NEAR MIDDLE UNIT.

name: J. Lintdate: 2/15/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

V-NOTCH DISSECTION UNIT DUE 11/01/91. MINOR SUNDAY TO START DUE OF V-NOTCH BY SE SECTION OF UNIT. Mountain buffer along channel. Field review requested. 11/01/91.

name: Stacydate: 2/15/91

SOILS:

RESOURCE CONCERNS: Stay above slope break along north and east boundaries

name: R. L. Hueschendate: 2/11/91

WILDLIFE:

RESOURCE CONCERNS: Loss of low and moderate value deer and moderate and high marker habitat.

name: M. Weberdate: 11/27/90

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By: Field review requested by biologists

Reviewed By: Field review requested by biologists

title:

James S. Burns Biologist  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 248 ACRES 41

STATEMENT OF INTENT BY IDT: Split yard V-notch running through central portion of unit. Keep south boundary at slope break above V-notch.

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 1025

PHOTO INFO: YR 1976 FLT LN 36 STEREO PR 1176/83  
1/4 QUAD ID: 82

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

--- CLASS I STREAM  
- - - CLASS II STREAM  
... CLASS III STREAM  
||||| BUFFER ZONE  
⊙ LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305  
H

EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearecut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 78 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/lewis club. If possible, retain 1 snags per acre for diversity.

Richard R. Zabriskie 2/15/91

## TIMBER &amp; LOGGING SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR DUNSMITH SLACKLINE CABLE SYSTEMS TO PROVIDE ONE-END SUSPENSION FOR PROTECTION OF SENSITIVE SOILS. DOUBTFUL THAT FULL SUSPENSION CAN BE OBTAINED DUE TO TOPOGRAPHY, LANDING LOCATION, AND MINUTILL SYSTEM'S name: CAPABILITIES. SPECIFICALLY FEEL AND SOIL YARD DATA NETWORKS. RZ

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

UNIT ACCESSED BY ROAD 25394. SPECIFIED ROAD STOPS AT FIRST LANDING. A SHORT TEMPORARY SPIRIT WILL BE USED TO GET TO THE SOUTH LANDING WHICH SHOULD BE A MINIMUM OF 60' FROM CLASS II name: SITHUPAM. date: 2/15/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Salinity based on V-notches, DE 1-11-71

## name:

## date:

## SOILS:

## RESOURCE CONCERNS:

Full suspension near all the substrate and ground surface. name: *by [unclear]* date: 2/15/91

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of moderate habitat. deer and Marten habitat. name: M.J. Weber date: 11/27/92

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

## name:

## date:

## CULTURAL:

## RESOURCE CONCERNS:

## name:

## date:

## Reviewed By:

## Resource Concerns:

note discrepancy between waiting full suspension and capabilities of selected yarding. Partial suspension is adequate.

## title:

## Resource Concerns:

James S. Beard Bryanaki Interdisciplinary Team Leader date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 249 ACRES 16

STATEMENT OF INTENT BY IDT:

avoid extreme hazard soils  
between unit 249 and 216.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 208PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376/290  
1/4 QUAD ID: 289PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

- - - - - CLASS I STREAM  
 - - - - - CLASS II STREAM  
 - - - - - CLASS III STREAM  
 - - - - - BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305)  
HEXISTING ROAD  
- - - - -  
PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS Clearcut unit followed by natural regeneration. Site productivity is low with an average site index of 61 (Furr). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry/deciduous club. If possible, retain 2 snags per acre for diversity. Refined R. Zolotare 2/15/91

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: DESIGNED FOR DOWNHILL highlead CABLE SYSTEMS.

Split yard V-notches and directionally fall timber away from name: Phyllis Lilly these notches. date: 2-11-91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75342. WITH NEED TWO TEMPORARY SPURNS TO REACH LANDINGS.

name:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

date: 2/15/91

No concerns DK 1-11-91

name:

## SOILS:

RESOURCE CONCERNS:

date:

shown on photo unit directionally fall trees away from boundary, hills just outside of southern boundary

name: R. Hunsicker

date: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS:

date:

loss of moderate habitat.

name: M.T. Weber

date: 11/27/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

## CULTURAL:

RESOURCE CONCERNS:

date:

name:

## Reviewed By:

date:

title:

James S. Burns Bengaske date: 2/8/91  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: Keep north boundary 50' from head (each way). Keep south boundary 50' from Class II stream. Keep boundary at slope break of stream channel in southeast portion of unit. Wildlife habitat in 200' travel corridor between boundary at slope break. Large unit size may not meet 1/40 of stream. Recreation around 200' stream buffer along south boundary - effects need to be noted in EIC.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1550

PHOTO INFO: YR 1984 FLT LN 43 STEREO PR 284-2162  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

305  
H

EXISTING ROAD  
--- PLANNED ROAD

UNIT # 300 ACRES 62

SILVICULTURE  
Rx SYNOPSIS  
Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 74 (fair). Predominate plant series is western hemlock, predominate plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity. Regard R. Zelenka 2/18/91

TIMBER &amp; LOGGING RESOURCE CONCERNS:

SYSTEMS DESIGNED FOR UPHILL LIVE SKYLING CARLE

Additional logging may be needed to yard northeast corner of unit. name: Greg Kelly date: 2-7-91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSIBLE BY A TRAILHEAD SIDE OF ROAD 7530. SPUR WILL TAKE N. FROM EAST LANE IN UNIT 301.

name:

date: 2/13/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: Flow over boundary 3300 to 3400 meters in watershed.

Pull back unit boundary from stream on East side of unit 100' min. or slope break which ever is greater. USGS 8/24/90

SOILS: RESOURCE CONCERNS: No soils concerns

name:

date: 2/14/91

WILDLIFE: RESOURCE CONCERNS: Loss of habitat in unit 301 due to clear cut, range. Consider along Class II stream at east end of unit is probably not a threat for habitat concerns. Boundary adjacent to road 7530.

RECREATION & VISUAL: RESOURCE CONCERNS:

name: R. Zelenka date: 2/14/91

CULTURAL: RESOURCE CONCERNS:

name: R. Zelenka date: 2/14/91

name: R. Zelenka date: 2/14/91

name: R. Zelenka date: 2/14/91

name: R. Zelenka date: 2/14/91

name: R. Zelenka date: 2/14/91

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name: R. Zelenka date: 2/14/91

name: R. Zelenka date: 2/14/91

name: R. Zelenka date: 2/14/91



## UNIT DESIGN CARD

UNIT # 301 ACRES 46

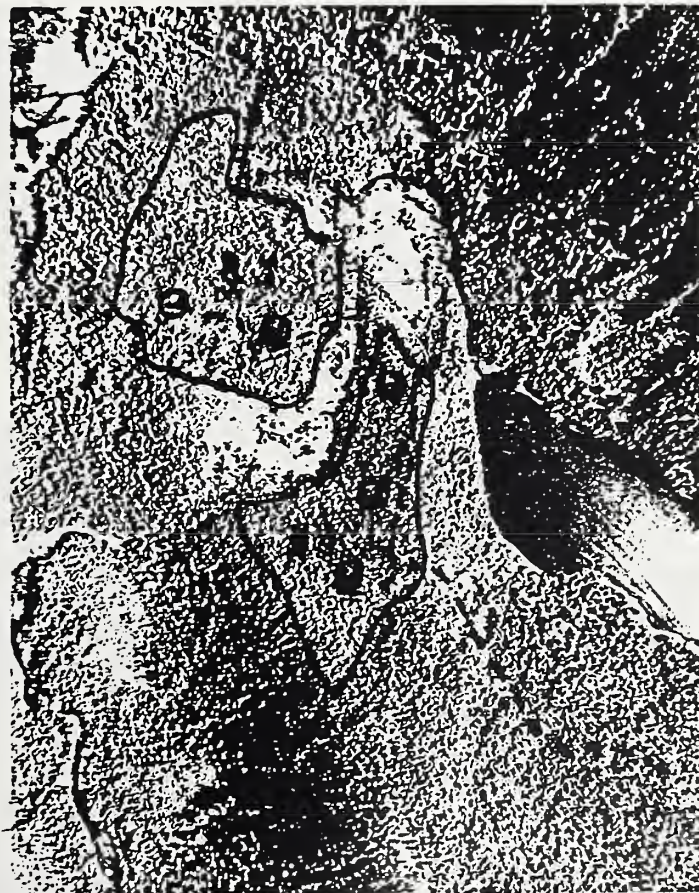
STATEMENT OF INTENT BY IDT: Keep south boundary 300' from lake, keep north boundary 50' from Class II stream. Southern boundary pulled back out of hazard soils. Vignals have been placed along boundary along ridge on north west unit boundary, feather into muskeg where possible.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1150

PHOTO INFO: YR 1984 FLT LN 43 STEREO PR 284-216/205  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
||||| BUFFER ZONE  
Ⓛ LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

305  
H

EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity is moderate with an average site index of 80 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/skunk cabbage. If possible, leave 2 snags per acre for diversity.

Richard R. Zabriskie 2/18/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR WHITE LOG SKIN CARCASS

SYSTEMS: PULPWOODS Y FILL FIELDS ALONG FISH MESSAS AT NORTH END IS PULPWOODS. Tailholds may be a problem along northern boundary.

name: Don Kelly date: 2/1/91

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

7530. TANKS TEMPORARY SITES ARE NEEDED TO RAKE 4 CHANGES. THE EXISTING SITES WILL HAVE TO BE EXTENDED name: Don Kelly date: 2/1/91

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

NO PROBLEMS IDENTIFIED IN 5/3/90

Pull limit boundary back 50 feet min. from stream. Northern boundary. UGS 8/31/90

name: \_\_\_\_\_ date: \_\_\_\_\_

## SOILS:

## RESOURCE CONCERNS:

Partial suspension desirable

name: P. J. J. J. date: 2/1/91

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of brown bear habitat due to range. Existing steps 300 feet from the lake.

name: W. J. J. J. date: 9/13/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Unit is in a very nice place. No problems identified. Unit is in a very nice place. No problems identified. Unit is in a very nice place. No problems identified.

## CULTURAL:

## RESOURCE CONCERNS:

Unit is in a very nice place. No problems identified. Unit is in a very nice place. No problems identified. Unit is in a very nice place. No problems identified.

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By: John S. Burnham for tail hold along with boundary by muskeg that says on slope may change during log yard in field.

title: John S. Burnham Interdisciplinary Team Leader date: 2/15/91







## UNIT DESIGN CARD

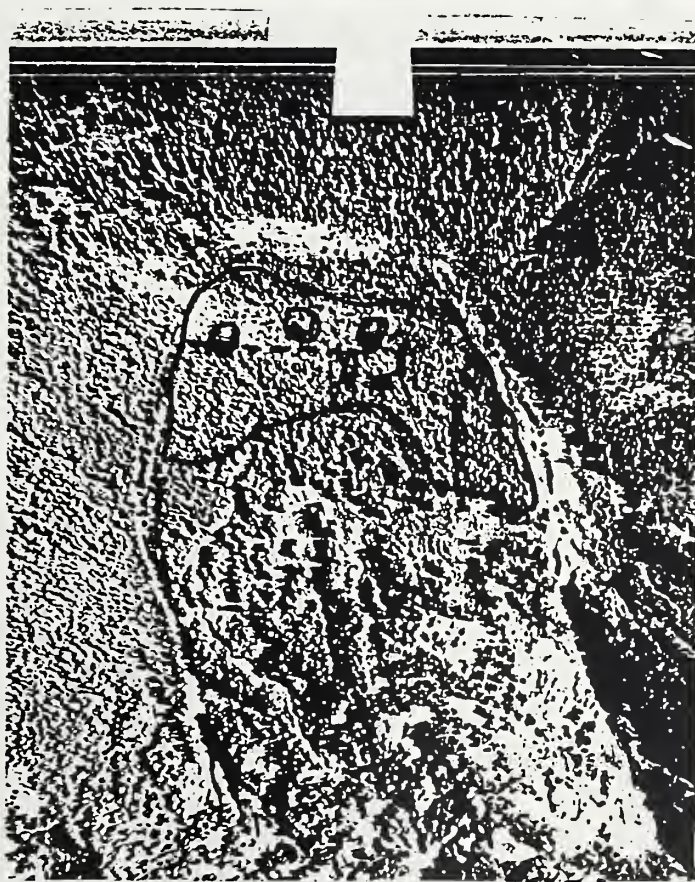
UNIT # 305 ACRES 58

STATEMENT OF INTENT BY IDT: Split yard the 3 V-notches in unit. Backline dropped below cliffs/fault area to eliminate blind-leads. Directionally full timber away from notch along north boundary. Visuals and recreation have concerns over cumulative effect of harvesting 365,306,361,364.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1450

PHOTO INFO: YR 1984 FLT LN 43 STEREO PR 284-119/118  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

(305 H)

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearest unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 91 (fair). Consider stand for pre-commercial thinning in 20-25 years. Predominant plant series is western hemlock, hemlock/blueberry/shield fern. It possibly retain 2 species Reg. forest for shading. Revised R. 3/20/90

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR DOMESTIC highlead CABLE SYSTEMS  
 DETERMINED FOR THE UNIT YARD V-NOTCHES. REMOVE CABLE-  
 V-NOTCHES FROM V-NOTCHES. date: 2-7-91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD  
 7530. A TEMPORARY SPUR WILL BE NEEDED TO GET TO  
 THE SOUTH LANDING. SCORN ROCK PITS FROM PLOTS AT  
 name: THE CREEK. date: 2/16/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:  
 No fish concerns 08/20/90

See site recommendations to protect small v-notches  
 5/27/90  
 date: 9/20/90

## name:

## SOILS: RESOURCE CONCERNS:

Deep garden deep V-notches in unit and keep logging debris out of V-notches including the notches that form north and south boundaries.

name: K. Huesch

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high value deer winter range. Unit is in a good location high in the drainage.

name: M. Huesch

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

name: M. Huesch

## CULTURAL:

## RESOURCE CONCERNS:

name: M. Huesch

## CULTURAL:

## RESOURCE CONCERNS:

name: M. Huesch

## Reviewed By:

name: M. Huesch

name: M. Huesch

name: M. Huesch

name: M. Huesch

name: M. Huesch

name: M. Huesch

name: M. Huesch

name: M. Huesch

name: M. Huesch

title:

Interdisciplinary Team Leader

date: 2/16/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 307 ACRES 50

STATEMENT OF INTENT BY IDT: Keep west boundary as slope break of Class II stream. Keep north boundary 500' from beach (beach fringe zone) for wildlife and recreation. Unit is retention unit too large to meet this objective. No other resource concerns noted. Avoid beach fringe to protect eagle tree.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1250

PHOTO INFO: YR 1984 FLT LN 44 STEREO PR 1884-18/180  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 ⊙ LANDING
- UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305  
H
- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearest unit followed by natural vegetation. Site productivity ranges from moderate to high with an average site index of 86 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blackberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING SYSTEMS

## RESOURCE CONCERNS:

DESIGNATED FOR THE UNIT: WILDCRANE CARCE

Synopsis: Practically full timber away from stream buffer along west boundary and away from existing harvest unit along northwest name: Graybill date: 2/2/84

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

7530. sites concern on SOUTH EAST SIDE OF UNIT will require timber piles.

## name:

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Pull back 100 feet min. or windfirm boundary on Class I stream and 50 feet min. or windfirm on Class II stream V88 7/20/90 Follow fish recommendation above.

## name:

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

## name:

P. H. H. H. H.

## WILDLIFE:

## RESOURCE CONCERNS:

Winter range. Boundary pulled back from the beach to avoid beach fringe and eagle tree.

## RECREATION &amp;

## RESOURCE CONCERNS:

## VISUAL:

Recreation concerns concern about the unit. Parked cars along the beach. Change to 100' buffer from beach to avoid beach fringe and eagle tree. 300' buffer from beach to avoid beach fringe and eagle tree.

## name:

## CULTURAL:

## RESOURCE CONCERNS:

## name:

## Reviewed By:

## date:

## title:

Interdisciplinary Team Leader

## date:

CNA-1900-05

James S. Burns Beggs  
 Interdisciplinary Team Leader



## UNIT DESIGN CARD

UNIT # 308

ACRES 29

STATEMENT OF INTENT BY IDT: Split yard V-notch in central portion of unit. Visuals and recreation have concern over cumulative effect of harvesting 308, 309, 310, 311, 312, 313. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 377

PHOTO INFO: YR 1988 FLT LN 44 STEREO PR 1884-1811  
1/4 QUAD ID: 182

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- ① LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD305  
H

EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE Clearcut unit. Predominant plant species are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to Alaska cedar to retain current species composition. Site productivity ranges from low to moderate with an average site index of 72 (Fair). If possible, retain 2 mugo fir for diversity.

## TIMBER &amp; LOGGING SYSTEMS

DESIGNED FOR DOMESTIC (HIGHER) CARRIES SYSTEMS. DURING MONITORING FALL AND SPRING VISITS V-NOTCHES IN THE UNIT, THE MONITORING PERSONNEL SHALL BE NOTIFIED BY NAME: John J. Kelly, Split yard V-notch date: 2/1/91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75.3%. WILL HAVE TWO LANEWAYS WITH GRAD OF ROAD ON GRN4 SIDE OF "V" NOTCH. KEEP FIRE LANE THROUGH NOTCHES TO AVOID SOOTY MOUNT POTENTIAL. name: John J. Kelly date: 2/1/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: No fish concerns 088 9/20/90 Split V-notch in center of unit and V-notch along south portion of unit.

name: S. Panathier date: 9/20/90

## SOILS: RESOURCE CONCERNS:

Split yard in V-notch in center of unit

name: R. Allen date: 7/17/90

WILDLIFE: RESOURCE CONCERNS: Loss of moderate value deer winter range.

name: John J. Kelly date: 2/1/91

## RECREATION &amp; VISUAL:

name: John J. Kelly date: 2/1/91

CULTURAL: RESOURCE CONCERNS: No cultural concerns in unit. 35% of unit is in V-notch. 35% of unit is in V-notch. 35% of unit is in V-notch.

name: John J. Kelly date: 2/1/91

CULTURAL: RESOURCE CONCERNS: No cultural concerns in unit. 35% of unit is in V-notch. 35% of unit is in V-notch. 35% of unit is in V-notch.

name: John J. Kelly date: 2/1/91

name: John J. Kelly date: 2/1/91

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name: John J. Kelly date: 2/1/91

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name: John J. Kelly date: 2/1/91

name: John J. Kelly date: 2/1/91

name: John J. Kelly date: 2/1/91

name: John J. Kelly date: 2/1/91

name: John J. Kelly date: 2/1/91







## UNIT DESIGN CARD

UNIT # 310

ACRES 5X

STATEMENT OF INTENT BY IDT: Keep south boundary 300' from lake for wildlife and vegetation. This may not be possible in SE corner so effects will be tracked in EIS. Split yard V-notch in central portion of unit, between and visualize have concerns about cumulative effect of harvesting 308, 309, 310, 341.

UNIT DESIGN (PLANNED)

LOG SYSTEM	EST VOLUME/AC	TOT VOLUME
H	13	754

PHOTO INFO: YR 1988 FLT LN 44 STEREO PR 1884-182/181

1/4 QUAD ID:

**PLANNED (ORTHO PHOTO)**

SCALE: 1:12,000



## LEGEND

- CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

Reviewed By:

**SILVICULTURE**  
**Rx SYNOPSIS**

average size index of 76 (Furr). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern with some inclusions of mixed conifer species. If possible, retain 2 snags for diversity.

## TIMBER & LOGGING

SYSTEMS	DESIGNED FOR PLANTATION HUCKLEBERRY CABLE SYSTEMS.
PLANTATION HUCKLEBERRY CABLE SYSTEMS.	DESIGNED FOR PLANTATION HUCKLEBERRY CABLE SYSTEMS.

name: Reynolds

ROADS & ACCESS RESOURCE CONCERNS: UNIT IS ACCESSED BY ROAD 7533. A SHORT TEMPORARY ROAD WILL BE NEEDED TO REACH THE MILLER LAKES. NEEDS 75331 TRUCKS OFF HIGHWAY TO THE CROSS III STATION.

name: *A. C.* date: *2/12/19*

FISHERIES &amp;

HYDROLOGY  
no high concentration

SPLO- YARD ON V-NICKLES OK 1/14/91.

name:

SOILS:	RESOURCE CONCERNS:
--------	--------------------

'Split yard on b-north, in center of unit

name: K. H. H. H. H.

WILDLIFE:	RESOURCE CONCERNS: / <i>not a major concern</i>
-----------	---

deer winds range. Boundary pulled back 300' from the lake.

name: 12, J. Weber

RECREATION &amp; RESOURCE CONCERNS:

WYSLIAI •

[illegible]

name:

Reviewed By:

John S. Brown, Jr.  
Interdisciplinary Team Leader

title:

## Interdisciplinary Team Leader

CMA-1900-05

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 311

ACRES 30

STATEMENT OF INTENT BY IDT: Northwest and Southwest settings lost due to 300' lake buffer for recreation and wildlife. Keep northwest boundary at slope break of Class II stream for fisheries. Visuals and recreation have concern over cumulative effect of harvesting 308, 309, 310, 311.

UNIT DESIGN (PLANNED)

LOG SYSTEM	EST VOLUME/AC	TOT VOLUME
H	25	750

PHOTO INFO: YR 1928 FLT LN 44 STEREO PR 1884-182/181

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, N  
+ LOGGING METHOD  
EXISTING ROAD  
PLANNED ROAD

**SILVICULTURE**  
**Rx SYNOPSIS**

## Rx SYNOPSIS

**SILVICULTURE**  
**Rx SYNOPSIS**

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 76 (Fair). Predominant plant series is western hemlock, predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/sitka cypress. Unit adjacent to old harvest unit. It possibly retain 2 snags per acre for diversity.

TIMBER & LOGGING	RESOURCE CONCERNS:

# SYSTEMS

CRUCIATE SYSTEMS.      DIFFERENTIATING      IN      ANALY      REIN.      CRUCIATE      ET.

name: Patricia Kelly unit: Additional  
 SSN: 027012 landings may be needed to yard unit.  
 date: 2/20/01 problem - adjacent to old harvest

ROADS & ACCESS	RESOURCE CONCERNS: <i>WATER ACCESS BY ROAD</i>
----------------	--

7533. UTILIZE TWO SWITCH BAKES TO REDUCE GRADES.

**name:**

FISHERIES &	RESOURCE CONCERNS:

date: 2/12/91

FISHERIES &	RESOURCE CONCERNS:

Pull back from Lake 100 part mem. 2

HYDROLOGY

boundary in N.E. portion of unit. UGS 9/20/90

**name:**

SOILS:	RESOURCE CONCERNS:
--------	--------------------

date:

On soil covered

name:

**WILDLIFE:**

Wil. & Lee

Boundary pulled back from lake 300' in winter range.

name: M. J. Weber-

date: 7/3/82.

RECREATION &	RESOURCE CONCERNS:
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**VISUAL:**

**CULTURAL:** RESOURCE CONCERNS: Vachonvillea Red Red 10/17/79

**CULTURAL:**

CULTURAL:	RESOURCE CONCERNS:
-----------	--------------------

name:

Reviewed By: *Ms. Constance W. W. W. W.*

Reviewed By: More concerned with the book's  
inner content & broad details. High prob. to fully read  
some slope may change during transport.

title:

## Interdisciplinary Team Leader

date: 11/6/11

CMA-1900-05



## UNIT DESIGN CARD

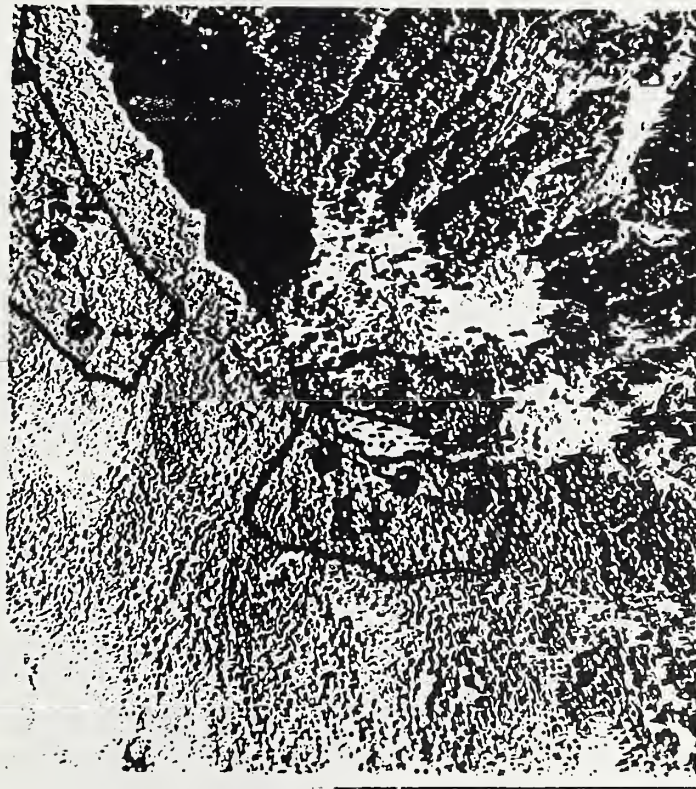
STATEMENT OF INTENT BY IDT: Split yard U-notch in southern portion of unit. Potential for unimpaired stream channels along east boundary, north hydrology and fisheries review at time of layout to adjust boundary to protect stream. Visuals and recreation have concern over cumulative effect of harvesting units 312 and 313.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 900PHOTO INFO: YR 1988 FLT LN 44 STEREO PR 1804-182/183

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

UNIT # 312ACRES 36

SILVICULTURE Clearcut unit followed by natural regeneration. Site productivity ranges from low with an average site index of 61 (Fair). Predominant plant series are western hemlock and mountain hemlock. Predominant plant associations are western hemlock/blueberry/sitka fir and mountain hemlock/blueberry. If possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

SYSTEMS REMOVED FULL THICKNESS (HUC) CARC SYSTEMS  
 PREVIOUSLY FELL AND SPLIT YARD V-NOTCH IN SOUTHERN PORTION OF UNIT. Large landings to pull logs away from sensitive soils in central name: Unit 312 Porting of unit backline may need to be possible blueberry date: 2-1-84

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCEPTED BY TEMPERATURE SENSITIVE OF ROAD 2533. AREA OF POSSIBLE ROCK PITS. SCHOEN ROCK PITS FROM MEANS AT LANE

name:

FISHERIES & HYDROLOGY RESOURCE CONCERNS: Class I stream. Pull back 100' from wind farm boundary along East boundary. Possible unimpaired channels heads ground review at time of layout. UDS 9/20/90

name:

SOILS: RESOURCE CONCERNS: Split yard on V notch in southern part of unit date:

name:

WILDLIFE: RESOURCE CONCERNS: Loss of high pressure deer winter range. date: 1/17/90

name:

RECREATION & VISUAL: RESOURCE CONCERNS: Recreation has increased since 1980. Changes to 1050 road to increase visibility. Limit timberline & fire lines. date: 12/13/88

name:

CULTURAL: RESOURCE CONCERNS: date:

name:

Reviewed By: State concerns for potential blueberry along backline. Unit major slope may change during field layout date:

title:

James S. Bernal Bergquist  
 Interdisciplinary Team Leader

date: 2/16/91

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## UNIT DESIGN CARD

UNIT # 313

Total  
ACRES 17

STATEMENT OF INTENT BY IDT: Entire unit in riparian area. Keep northeast boundary 100' from lake. Hydrology and fish review needed at time of layer to identify unimpaired stream channels. Possible channel widening in south end of unit and by riparian area. In west of unit, unit has good shape for visually ties into existing openings. Unit could be considered for partial cut due to wildlife fish and hydrology concerns.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SH EST VOLUME/AC 36 TOT VOLUME 180

PHOTO INFO: YR 1988 FLT LN 44 STEREO PR/884-183/182

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (D) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305  
H)

EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Partial cut unit harvest one-third of the acres in either short corridors or cable corridors. Preliminary plant series is Sitka spruce. Planting of sitka spruce will be needed to ensure adequate stocking. Site productivity is high with an average site index of 100 (base). Monitor stand and consider for precommercial thinning in 20-25 years if needed. Final design and final cut scheduled for 2019.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Short harvest cable systems to be selected for silviculture cable systems to include cable and suspension. Encourage use of dead trees to protect snags by yarding. From the range to the forest, direct yarding for away from stream bed. Intention: the short cable yarding name: in silviculture of unit (final) date: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY SHORT TIE-IN ROAD 7533, MULTIPLE DRAINAGES IN UNIT. UTILIZE OVERSIZE CAPLANS TO REMOVE SNAGS & HYDROLOGY CONCERNS. Final date: 2/2/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: Numerous class I channels in this unit. Class I stream along west boundary. Pull back 100' re vegetation boundary. Need ground review during August. 8/25 9/20/90

name:

date:

## SOILS:

## RESOURCE CONCERNS:

Shoreland riparian habitat is generally 1 unit. The remaining unit is riparian habitat. Riparian habitat is being protected by riparian habitat. Final date: 2/2/91

## WILDLIFE:

date:

## RESOURCE CONCERNS:

deer winter range, high value bear, goose and other habitat. Entire unit is in riparian area.

name: 2/2/91

date: 2/2/91

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Recommend 300' buffer into lake unit. Unit is in riparian habitat. Riparian habitat is being protected by riparian habitat. Final date: 2/2/91

## CULTURAL:

## RESOURCE CONCERNS:

Final date: 2/2/91

name:

date:

Reviewed By: Note large concerns for protection of class I channels. Field review needed prior to layout.

title:

Interdisciplinary Team Leader

date: 2/16/91

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## UNIT DESIGN CARD

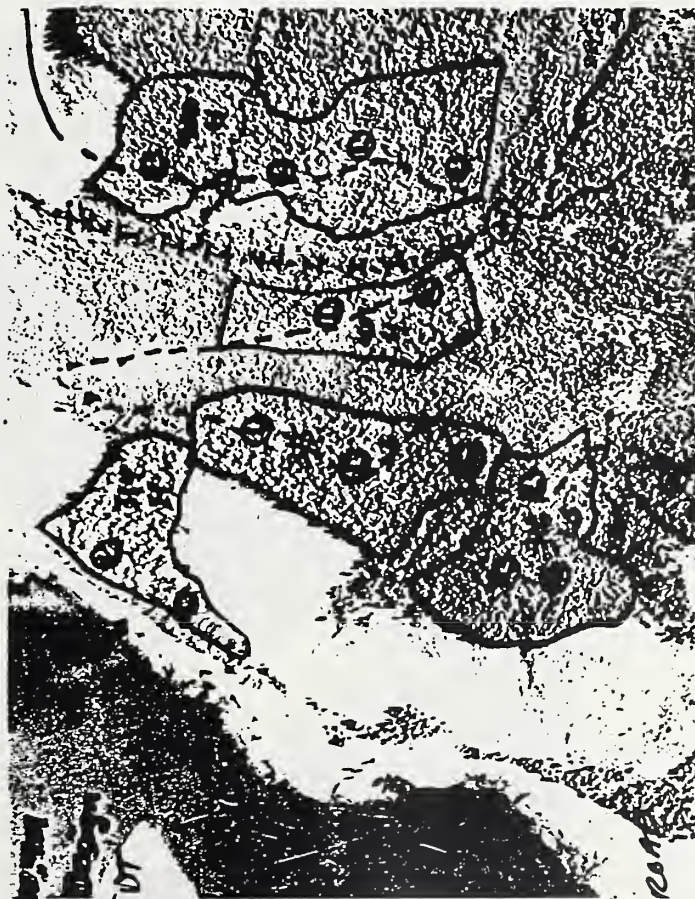
UNIT # 315 ACRES 33

STATEMENT OF INTENT BY IDT: North portion of unit per unit  
 314. USFS has concern over cumulative effect of  
 harvesting 314, 315, 316 and the existing units. Keep a 300' wide  
 zone to north units 315 and 401 for a wildlife travel corridor.  
 Resource has some concerns as to possible cumulative effect of  
 cutting up unit.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 825PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-110/111

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 - - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD305  
HEXISTING ROAD  
--- PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Cleaver unit followed by natural regeneration. Site  
 productivity ranges from low to high with an average  
 site index of 84 (Fair). Unit adjacent to old harvest unit. Predominant  
 plant species is western hemlock. Predominant plant associations are  
 upland hemlock/blackberry/Isisleaf fern and western hemlock/blackberry/  
 clouds club (S.P.W.D). If possible, retain snag per acre for diversity.  
 Follow R Zebra. 2/10/91

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR WHITE LIVE STONE / FLYER CARVE  
 system. Thresholds may be a problem-adjacent to old harvest unit.

name: Gregory Lillydate: 2-7-91

ROADS & ACCESS RESOURCE CONCERNS: USE NATURAL WINDFALLS  
TO SCISSOR ROAD CUTS. SCISSOR VIEWS IN FENCE STRIP. UNIT  
ACCESSOR BY ROAD 7720.

name:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

date: 2/13/91

NO CONCERNS. DEC 2/31/90  
Wispick concerns UG 8 8/31/90

name:

## SOILS:

RESOURCE CONCERNS:

date:

No soils concernsname: P. Albert

## WILDLIFE:

RESOURCE CONCERNS:

date: 2/10/91

Loss of moderate level/high  
value downy range. Windfall corridor left along ridge  
between units 315 and 401.

name: M. J. Weber

RESOURCE CONCERNS:

date: 9/13/90RECREATION &  
VISUAL:

RESOURCE CONCERNS:

Major wildlife and recreation concerns are the unit. 300' wide riparian  
corridor to south side. 200' wide riparian corridor to south side. 200' wide  
corridor to south side. 200' wide riparian corridor to south side.  
 name: Gregory Lilly

## CULTURAL:

RESOURCE CONCERNS:

date:

name:

date:

Reviewed By: note concerns for locating thresholds  
adjacent to old harvest area.

title: James S. Bland Resource  
Interdisciplinary Team Leader

date: 2/16/91

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UNIT # 316 ACRES 32

STATEMENT OF INTENT BY IDT: (Cons. Plan) at com with road  
 provide path to forest and a boundary for logging. One end  
 has to provide needed on road end. Long timber in big patches  
 no slash and scrub as well as dense woods. Recreation and access  
 has been given consideration of cut at foresting 315, 316, 317  
 considering the existing roads.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 13 TOT VOLUME 416PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-110/111

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

- CLASS I STREAM
- - - CLASS II STREAM
- ..... CLASS III STREAM
- ||||| BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER  
+ LOGGING METHOD305  
HEXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site  
 productivity ranges from low to high with an  
 average site index of 90 (Fair). Consider unit for precommercial  
 thinning in 20-25 years. Predominant plant series is western hemlock.  
 Unit adjacent to old harvest unit. If possible, retain 2 snags  
 per acre for diversity.

Richard R. Zedler 2/10/91

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DEGRADED FOREST CHANCE LOSS OF FOREST LAND  
 SYSTEMS. One end log suspension needed to protect  
 sensitive soils. Tailhold's may be a problem - adjacent to old harvest unit.  
 Delineation of fall timber away from V-notch along south boundary.  
 name: Forest date: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: USE NATURAL LANDFORMS TO  
 SECURE APPROPRIATE FROM VIEWS IN ROAD STRIP. A TEMPORARY  
 SLOPE WILL BE NEEDED TO ACCESS THE MOST HANDLING.

name:

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No concerns in 8/31/90

date: 2/13/91

No fish concern 8/31/90 UG

name:

## SOILS:

## RESOURCE CONCERNS:

High Hazard areas along  
 slope in north end slope water line required  
 full suspension  
 name: R. A. A. A. date: 2/11/91

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of mature forest  
 winter range.

name: M. J. Weber

## RECREATION &amp;

## RESOURCE CONCERNS:

date: 7/13/90

## VISUAL:

Vegetation has increased since 1984 with 1/2 acre unit. See sketch. Located  
 8/10/91. Appears to be a natural unit. There is a fire boundary of 2000' x  
 1000' for the larger area. Approximate 1000' x 1000' unit. Date: 2/13/90

## CULTURAL:

## RESOURCE CONCERNS:

date: 2/13/90

name:

date:

Reviewed By: Mike Conner for lead log suspension  
 instead of full suspension and suggested. However, the  
 very close unit appears to be change along log.

title:

Interdisciplinary Team Leader

date: 2/16/91

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## UNIT DESIGN CARD

UNIT # 317

ACRES 24

STATEMENT OF INTENT BY IDT: Split part 2 & move to Central  
portion of conf. Visuals and recreation has concern over  
cumulative effect of harvesting 34, 317 and presence of  
existing cuts. No other resource concerns noted.

UNIT DESIGN (PLANNED)

LOG SYSTEM	EST VOLUME/AC	TOT VOLUME
LS	25	600

PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-110/109  
1/4 QUAD ID:

**PLANNED (ORTHO PHOTO)**

SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

**SILVICULTURE  
Rx SYNOPSIS**

SILVICULTURE	Clearcut unit followed by natural regeneration. Site productivity is high with an average site index of 100 (Fair). Consider unit for precommercial thinning in 30-35 years.
Rx SYNOPSIS	Unit adjacent to old harvest unit. Predominant plant species is western hemlock / blueberry / devil's club (DBWU). If possible, thin both western hemlock / blueberry / devil's club (DBWU) and retain 2 snags per acre for diversity.

<p> <b>RESOURCE CONCERNS:</b> </p>	
------------------------------------	--

SYSTEMS

name: R. L. Brown, Jr.  
date: 2-1-61

**ROADS & ACCESS** RESOURCE CONCERNS: USE NATURAL LANDFOLDS  
IN SIKKEN ROAD CUTS FROM MOUNTAINS IN POTAL STRAIT AND  
HINDUS. UNIT ACCEDED BY MONTH 7720.

name: P. Lutz date: 2/12/01

**RESOURCE CONCERNS:**

HYDROLOGY

no water quality concerns. 9/13/90 5th/11th-12th.

no pH concerns 9/8 9/20/90

name:   
 date:

SOILS:	RESOURCE CONCERNS:
	split yard on V-matches in center of unit as shown on double unit design covering.

name: R. L. ...  
date: 4/12/68

WILDLIFE: ☐ RESOURCE CONCERNS: Lots of low value deer and wife.  
honeyeaters.

name: M.T. Wilson  
date: 02/23/10

<p> <b>RESOURCE CONCERNS:</b>  <b>RECREATION &amp; VISUAL:</b> </p>	<p> <b>RESOURCE CONCERNS:</b>  <b>RECREATION &amp; VISUAL:</b> </p>
---	---

function is over the cut (mortgage) has been completed and  
 the second, the mortgagee of the deed is in possession  
 name: \_\_\_\_\_ date: \_\_\_\_\_

Case: 15-1418	CHITRAL: RESOURCE CONCERNS.
---------------	-----------------------------

name.

Reviewed By: Able concerns poor breathing good technique  
hand eyes on slope may need adjustment. Strong belief  
toward the final good technique.

title: *James J. Duderstadt*  
Interdisciplinary Team Leader  
date: *6/16/17*

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 320

ACRES 35

STATEMENT OF INTENT BY IDT: Keep northwest boundary off of slope break by U-march. Visuals and recreation have concerns over cumulative effects of harvesting units 319, 320, 329, 330, 353. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 875PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-109/110

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

(305)  
 H

EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## Rx SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 82 (Fair). Unit is adjacent to old harvest unit. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. If possible, retain 2 snags per acre for diversity. Revised R. Zelenko 2/10/91

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR WHICH LIVE SKYLING CARBON SYSTEMS. Tailholds may be a problem adjacent to old harvest unit.

name: Randy Lelydate: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY A TEMPORARY SPUR OFF OF ROAD 7720. START TEMPORARY SPUR SOUTH OF "V" NOTCH.

name: Robertdate: 2/13/91

## FISHERIES &amp;

## HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns - UGS 7/20/90

name: Steve Puntdate: 7/12/90

## SOILS:

## RESOURCE CONCERNS:

No soils concerns.

name: R. Huerfanodate: 9/17/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high value deer winter range.

name: M.J. Weberdate: 9/13/90

## RECREATION &amp;

## VISUAL:

## RESOURCE CONCERNS:

Recreation has no visual concerns w/ this unit. Changes to 2050 Roadlog inventory. Unit to 1500' from M8 Roadlog. name: Michael L. Pothol date: 10/11/90

## CULTURAL:

## RESOURCE CONCERNS:

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed By: Note concerns for locating tailhold adjacent to old harvest unit. Unit size and slope may change some during layout.

title: \_\_\_\_\_

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## ACRES 38

SILVICULTURE	Clearcut unit followed by natural regeneration.
Rx SYNOPSIS	Site productivity is moderate with an average site index of 83 (Form). Unit adjacent to old harvest unit.
	Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/devils club. If possible, retain 2 snags per acre for climb

RESOURCE CONCERNS:

NOTES IN NUMBER

RESOURCE CONCERNS: ✓



EXISTING ROAD  
PLANNED ROAD

Reviewed By: *N. agent to old*

date: 2/18/91

CMA-1900-05

## UNIT DESIGN CARD

UNIT # 322

ACRES 46

STATEMENT OF INTENT BY IDT: Visuals and recreation have concern over cumulative effects of harvesting 321, 322, 323, 324, 325, 328 and existing units. Leave scattered trees along north boundary for wildlife purposes. No other resource concerns noted. Too steep to get landings in along road so helicopter yard the unit.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 1150PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-108/109

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
 (305 H)

EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration, site productivity ranges from moderate to high with an average site index of 85 (Fair). Predominant plant series is western hemlock, predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. Unit adjacent to old harvest unit. It possibly retain 2 snags per acre. *Forest Management Plan 2/10/91*

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR HELICOPTER LANDING SYSTEMS. No road access. Fly marker to landing below unit.

name: Paul Lillydate: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZING ONE OF THE ROCK PILES LOCATED DOWNHILL FROM THIS UNIT ON ROAD 7530 AS A LANDING.

name: A. Lutzdate: 2/14/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

no fish concerns UGS 9/20/90  
 No hydrology concerns on 1/18/91

name:

date:

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

name: R. Hughesdate: 9/17/90

## WILDLIFE:

## RESOURCE CONCERNS:

value deer winter range.  
 Loss of lowland meadow.

name: Michael M. Millerdate: 9/18/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

## VISUAL:

Recreation has visual concerns of the unit. Unit is 1000' from the site (Portage). Chingwa to 2050' elevation, view of site.

name:

date: 10/2/90

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

## Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 323 ACRES 18

STATEMENT OF INTENT BY IDT: Visuals and recreation have concern over cumulative effects of harvesting 321,323,323,324,325,326, and existing units considering UQO of partial retention. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 450PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-108/107  
1/4 QUAD ID: \_\_\_\_\_PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
 (305 H)EXISTING ROAD  
 PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high within average site index of 91(Fair). Consider unit for precommercial thinning in 20-25 years. Unit adjacent to existing harvest unit. Predominant plant species is western hemlock. If possible, retain 2 snags per acre for diversity.

Richard R. Zabriskie 2/10/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR UPRIVER LIVE SKYLIVE (FLYER) CARRY SYSTEM. One end log suspension needed to permit sensitive soils. Tailholde may be a problem, adjacent to elk harvest unit.

name: R. Zabriskie date: 2-7-91

ROADS & ACCESS RESOURCE CONCERNS: USE NATURAL LAND FORMS TO SCREEN ROAD CUTS FROM VIEW IN THINNING AND FINAL STAGE. A TEMPORARY SPUR WILL BE NEEDED TO ACCESS THE LOTS AMONG.

name: J. Lutz date: 2/4/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns 08/9/20/90  
No hydrology concerns DEC 1/4/91

name: \_\_\_\_\_ date: \_\_\_\_\_

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

name: P. Hurd date: 9/17/90

## WILDLIFE:

## RESOURCE CONCERNS:

winter range.

date: 9/17/90name: Richard R. Zabriskie date: 9/18/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Recreation has been a concern for the unit as 11000 ft. from the site (Portage). The unit is a 2000 ft. wide area. The unit is a 2000 ft. wide area. The unit is a 2000 ft. wide area.

name: \_\_\_\_\_ date: \_\_\_\_\_

## CULTURAL:

## RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

## Reviewed By:

Note concerns for adequate tailholde adjacent to old harvest unit. Site and slope of unit may change during logport stage.

James S. Burns  
 Interdisciplinary Team Leader

title: \_\_\_\_\_ date: 2/8/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 324 ACRES 35

STATEMENT OF INTENT BY IDT: Visuals and vegetation have concern over cumulative effects of harvesting 321, 322, 323, 324, 325, 328 and existing units considering V40 of partial retention. One end log suspension needed to minimize soil disturbance.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 455

PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-108/107  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1" = 12,000'

## LEGEND

--- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
||||| BUFFER ZONE  
(L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD  
305  
H

--- EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity is moderate with an average site index of 77 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/bloody and western hemlock/blackberry/devils club. If possible, retain 2 snags per acre for diversity.

Richard R. Ziegler 2/10/91

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR UNIT: LIVE SKYLINE/FLYER  
CABLE SYSTEMS. Requiring one-DND suspension of WAs.  
Additional landings may be required to log unit.

name: Ray Zieglerdate: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT IS ACCESSED BY ROAD 7737. ADVERSE HAVE ROAD GRADE OF 15-18%. USE NATURAL LANDFORMS TO SCREEN ROAD CUT FROM VIEW IN HAZARD AND PERIC START.

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

no fish concerns oys 9/20/90  
NO HYDROLOGY CONCERNS DK 1-14-91

name: Ray Ziegler date: 2/13/91

name: \_\_\_\_\_

date: \_\_\_\_\_

## SOILS:

RESOURCE CONCERNS:

Unit contains areas of high mass movement hazard. Recommend partial suspension to minimize soil disturbance.

name: R. Zieglerdate: 1/17/90

## WILDLIFE:

RESOURCE CONCERNS:

Loss of some low volume deer winter range.

name: Richard R. Zieglerdate: 2/18/91RECREATION &  
VISUAL:

RESOURCE CONCERNS:

Recreation associated concerns w/ clearcut. Unit located 2,500' from Recreation Site (Portage). Change to LOS w/ clearcut area. 2/13/91.

name: \_\_\_\_\_

date: 2/13/91

## CULTURAL:

RESOURCE CONCERNS:

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

title: \_\_\_\_\_

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 325

ACRES 20

STATEMENT OF INTENT BY IDT: Visuals and recreation have concern over cumulative effects of harvesting 321,322,323,324,325,328 and existing units considering UGO of partial retention. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 260PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-108/107  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
- - - CLASS II STREAM  
| | | | CLASS III STREAM  
| | | | BUFFER ZONE  
L LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD  
305  
H

EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE Clearcut unit followed by natural regeneration. Rx SYNOPSIS Site productivity is low. Predominant plant series is western hemlock with some inclusions of mountain hemlocks. Predominant plant association is western hemlock/blueberry/deerwilt club. If possible, retain 2 snags per acre for diversity.

Richard R. Zolotare, 2/10/91

## TIMBER &amp; LOGGING

SYSTEMS DESIGNED FOR PLANNED HARVESTED CABLE

SYNOPSIS: Fuelbeds may be a problem, adjacent to a rocky along backline. Directly fall timber away from muskeg along unit boundary.

name: Gray Lily date: 2-7-91

ROADS & ACCESS RESOURCE CONCERNS: USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN HARV. AND FOR. STRAIT. UNIT ACCESSED BY ROAD 7737.

name:

date: 2/14/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

No fish concerns U88 9/20/90  
No hydrology concerns DE 4-14-91

name:

date:

SOILS: RESOURCE CONCERNS:

No soils concerns.

name: P. McArthurdate: 1/17/90

WILDLIFE: RESOURCE CONCERNS: No significant loss of deer winter range but unit provides a travel corridor to portage area through higher volume timber than to the south.

name: Richard Zolotaredate: 9/18/90

RECREATION &amp; VISUAL: RESOURCE CONCERNS:

VISUAL:

Recreation does not pose a concern of the unit. Changes to UGO have been made.

name:

date: 12/14/90

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed By: Note concerns for locating adequate fuelbed along backline adjacent to muskeg. Unit shows no size may change during beyond.

title: James S. Burns Bayou Lake date: 2/10/91  
Interdisciplinary Team Leader

CMA-1900-05



UNIT # 327

ACRES 77

STATEMENT OF INTENT BY IDI: Unable to access by road so helicopter yard unit. Keep southeast boundary at slope break of U-notch. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 1001  
 PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-108/107  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ||||| CLASS III STREAM  
 ⊞ BUFFER ZONE  
 ⊞ LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 80 (Fair). Unit adjacent to old harvest unit. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 20 spikes per acre for diversity. Revised 8/24/91

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR REDUCED LUMBER VOLUMES  
 DIRECTIONAL FELL ALONG FROM V-NOCHES AT AGE  
 20-25 YR UNIT. No road access. Fly timbering  
 landing along road east of unit. Directionally fell  
 timber away from openings along unit. date: 2-7-91

## name:

Agony Lilly pull boundary back to slope break on  
Class II stream 08-9/20/90, (distance to center of unit)  
Buffer out to slope break.

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTTERED SWITCHBACK ON  
ROAD 7737 AS LANDING.

## name:

date: 2/14/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

pull boundary back to slope break on  
Class II stream 08-9/20/90, (distance to center of unit)  
Buffer out to slope break.

## name:

date:

## SOILS:

## RESOURCE CONCERNS:

No soils concerns.

## name:

R. Hume

date: 9/17/90

## WILDLIFE:

## RESOURCE CONCERNS:

loss of lowland moisture  
value deer winter range.

## name:

Michael Wilkins

date: 9/18/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Change to 100% land cover inventory.

## name:

date: 10/12/91

## CULTURAL:

## RESOURCE CONCERNS:

## name:

date:

## Reviewed By:

title: James S. Burns Bayview  
Interdisciplinary Team Leader

## date:

2/18/91

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# Alternatives 23,5

## UNIT DESIGN CARD

UNIT # 328 ACRES 42

STATEMENT OF INTENT BY IDT: Split yard V-notch winning through central part of unit. Visuals and recreation have concern over cumulative effects of harvesting 321,323,323,324, 325, 325 and existing units considering V40 of partial retention, 100 other resource concerns noted.

SILVICULTURE  
RX SYNOPSIS  
Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 93 (Fair). Consider unit for precommercial thinning in 20-25 years. Unit adjacent to old harvest unit. Predominant plant series is western hemlock. It possibly retain 3 snags per acre for diversity.

UNIT DESIGN (PLANNED)  
LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 546  
PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-108/109  
1/4 QUAD ID:

TIMBER & LOGGING  
SYSTEMS  
DESIGNED FOR SMALL LIVE SKYLINE/FYER CAGE SYSTEMS, DISCONTINUING FELL AND SPLIT YARD V-NOTCH IN CENTER OF UNIT. Directionally fall timber away from adjacent part name: Ray Kelly by last name of unit date: 2-7-91

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

ROADS & ACCESS  
RESOURCE CONCERNS: USE NATURAL LANDSCAPE TO SCREEN ROAD CUTS FROM VIEW IN HAVAS AND PARADISE. WILL NEED A TEMPORARY STAKE AT THE TOP OF THE UNIT TO RECONSTRUCT.

FISHERIES & HYDROLOGY  
name: Split Yards V-notch date: 9/14/90  
RESOURCE CONCERNS: no fish concerns UGS 9/20/90



name: Split Yards V-notch date: 9/14/90  
SOILS: Split Yards V-notch in center of unit

name: R. Hunscher date: 9/17/90  
WILDLIFE: Split Yards V-notch in center of unit

name: Split Yards V-notch date: 9/17/90  
RECREATION & VISUAL: Split Yards V-notch in center of unit

name: Split Yards V-notch date: 9/17/90  
CULTURAL: Split Yards V-notch in center of unit

name: Split Yards V-notch date: 9/17/90  
CULTURAL: Split Yards V-notch in center of unit

name: Split Yards V-notch date: 9/17/90  
CULTURAL: Split Yards V-notch in center of unit

LEGEND  
CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING  
UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H  
EXISTING ROAD  
PLANNED ROAD

name: Split Yards V-notch date: 9/17/90  
Reviewed By: James S. Burns date: 2/18/91  
title: Interdisciplinary Team Leader



## UNIT DESIGN CARD

UNIT # 328

Total

ACRES 42

STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to visuals and recreation. If harvesting occurs near U-notches, split yard theme try to angle cut corridors to reduce visual impacts.

LOG SYSTEM L5 EST VOLUME/AC 13 TOT VOLUME 104

PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-1081

1/4 QUAD ID: 109

PLANNED (ORTHO PHOTO) SCALE: 1" = 12,000'



## LEGEND

Unit Boundary Existing Spec Rd.

Landing Planned Road

Split Line Temporary spur

Full Suspension Road closure

Partial Suspension (after haul)

Stream Streamside zone

## SILVICULTURE

Rx SYNOPSIS Partial cut unit. Cut approximately 50% of the acreage with group selection cuts. Cut skyline corridors. Cut areas should regenerate naturally. Site productivity ranges from moderate to high with an average site index of 93 (Fair). Unit adjacent to past harvest unit. Predominant plant series is western hemlock.

Richard R. Zaboraga

2/14/91

## TIMBER &amp; LOGGING

SYSTEMS logging occurs near U-notches, directionally fall away from these notches and split yard them. Additional landings may be needed. Name: Richard R. Zaboraga date: 2/14/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: MAY NEED ADDITIONAL TEMPORARY SPURS TO REACH LANDINGS ACCORDING TO PARTIAL CUTTING. USE NATURAL CORRIDORS AND VEGETATIVE SCREENING TO REDUCE VISUALS.

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: name: J. Hunt date: 2/14/91

name:

SOILS: RESOURCE CONCERNS: Recommend split yarding on U-notches or designing cut to avoid them. date:

name: R. H. Huchler

WILDLIFE: RESOURCE CONCERNS: date: 2/15/91

Reduces impact to estuary fringe

name: M. J. Weber

RECREATION & VISUAL: RESOURCE CONCERNS: date: 2/15/91

name:

CULTURAL: RESOURCE CONCERNS: date:

name:

Reviewed By: date:

title:

James S. Burns Interdisciplinary Team Leader date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 329

ACRES 34

STATEMENT OF INTENT BY IDT: Split yard V-notch in central portion of unit. Keep northwest and southeast boundaries at V-notch to help keep debris out of these notches. Visuals and recreation have concerns over cumulative effect of harvesting units 329, 330, 333, 365 and existing units given V40 of modification. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 850PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-75/74

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

CLASS I STREAM

CLASS II STREAM

CLASS III STREAM

BUFFER ZONE

LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305)  
H

EXISTING ROAD

PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleaver unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 76 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry shield fern and western hemlock/blueberry. Unit is adjacent to old harvest unit. If possible, retain 2 snags per acre for diversity. *for diversity, see plan and R. Zelmer 2/11/91*

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR OPEN LINE SKYLINE/FYER CARC SYSTEMS. DIRECTIONALLY FELL AND SPLIT YARD V-NOTCH. REMOVING DEBRIS FROM V-NOTCH. DIRECTIONALLY FELL AND SPLIT YARD V-NOTCH. EXISTING CLEARING TO PROTECT REGENERATION. *name: Dany Day date: 2-8-91*

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7720. USE NATURAL LANDFALLS TO SMOOTH ROADWAYS FROM VIEW IN MAINS AND PORTAGE AREA. *name: [signature] date: 2/14/91*

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

*no fish concerns 08/20/90*

*SPLIT YARD ON V-NOTCH IN CENTER OF UNIT. 1-14-91. D.K.*

## name:

## SOILS:

## RESOURCE CONCERNS:

SPLIT YARD IN CENTER OF UNIT AND DIRECTIONALLY FELL TIMBER ALONG V-NOTCH ALONG WESTERN BOUNDARY. *name: R. Huxford date: 9/17/90*

## WILDLIFE:

## RESOURCE CONCERNS:

*Loss of high quality deer.*

## name: M.J. Weber

## RECREATION &amp; VISUAL:

*date: 2/12/91*

*See landscape concerns of this unit. This unit is located in a clear-cut (Portage). Changes to 205+ landscape concerns. *name: [signature] date: 10/14/90**

## CULTURAL:

## RESOURCE CONCERNS:

## name:

## Reviewed By:

*date: 2/18/91*

## title:

*James S. Burns-Burgess*

Interdisciplinary Team Leader

CMA-1900-05



UNIT # 330 ACRES 82

STATEMENT OF INTENT BY IDT: Unable to access by road so helicopter used this unit. Directionally fall timber away from V-notch along northwest boundary. Keep boundary at this notch so if unit 353 is not harvested it will be windfirm. Visuals and recreation have concerns over cumulative effects of harvesting units 329, 330, 353, 365 and existing unit given VAD of modification.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 2050  
 PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-75-74  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1" = 12,000'



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 64 (Fair). Unit is adjacent to old harvest unit. Predominant plant species is western hemlock. Predominant plant species are western hemlock/ponderosa pine, Douglas fir, western white pine, and western white pine. If possible, retain 2 groups of western white pine.

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR REGENERATION - SYSTEMS.  
 DIRECTIONALLY FELL AWAY FROM V-NOTCH AND EXISTING CLEARCUT TO PROTECT REGENERATION. No road access, fly timber to landing  
 name: Ray Lally along road below unit date: 2-8-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZE A LANDING ON ROAD 7531 DOWN HILL FROM UNIT 353 TO FLY LOGS TO.

name:

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns UG 9/20/90

Directionally felled timber away from V notch, new road on unit to protect adjacent water quality DA 1-14-91

name:

## SOILS:

## RESOURCE CONCERNS:

Fall timber away from V-notch in western part of unit. Unit contains high organic soils but adverse effects will be minimized by helicopter logging.  
 name: R. H. H. H. date: 9/17/90

## WILDLIFE:

## RESOURCE CONCERNS:

Value low.

name: M. TulebeRECREATION &  
VISUAL:

## RESOURCE CONCERNS:

date: 2/12/91

Rec. New visual profile mount this unit unit as within 100' of Rec. site (Portage). Changes to LOS & landscape viewation.  
 name: M. Tulebe date: 10/11/90

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

## Reviewed By:

title:

James S. Burns Baginski  
 Interdisciplinary Team Leader

date: 2/18/91

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## UNIT DESIGN CARD

UNIT # 331 ACRES 47

STATEMENT OF INTENT BY IDT: Since we can get in a road above and below the unit, extend unit downhill towards beach but keep 500' away (buffer fringe zone). Keep south boundary out of extreme hazard soils, this also provides a wildlife travel corridor. One end by suspension will minimize risk of soil disturbance. To high logged ends.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1175

PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-78/77

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

CLASS I STREAM

CLASS II STREAM

CLASS III STREAM

BUFFER ZONE

LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD

PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 90 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant series is western hemlock/blueberry, Pedicularis plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity. Predicted R<sub>2</sub> 2/11/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR UPRILL AND DOWNHILL HIGHLEADS  
CABLE LOGGING, BREAK IN MIDDLE OF UNIT MAKES ACCESS FROM ABOVE AND RETURN NECESSARY. DIRECTLY FEEL AWAY FROM EXISTING CLEARCUT TO PREVENT REGENERATION. PERIODS OF UNIT MAY REQUIRE LOGGING. NAME: [illegible] date: 2-8-91

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

UNIT ACCESSED BY TWO

name:

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No hydrologic concerns 8/31/90 DPK.

No fire concerns 8/31/90

date: 2/14/91

name:

## SOILS:

## RESOURCE CONCERNS:

Unit boundary is out of extremely hazardous soils as indicated on photo.

date:

name: R. Huerfano

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate and high value deer-winter range. Boundary stays south of the beach and 300 feet from the stream on south side.

date: 2/15/91

name: M. J. Weber

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Unit within a Rec. Place. Changes to RDS + Rindloss inventories.

Rec. site 2300' from unit. Recreation area concerns M.B. Nelson name: [illegible] date: 10/17/91

date: 5/13/90

## CULTURAL:

## RESOURCE CONCERNS:

name:

## Reviewed By:

date:

title:


Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



UNIT # 332 ACRES 16

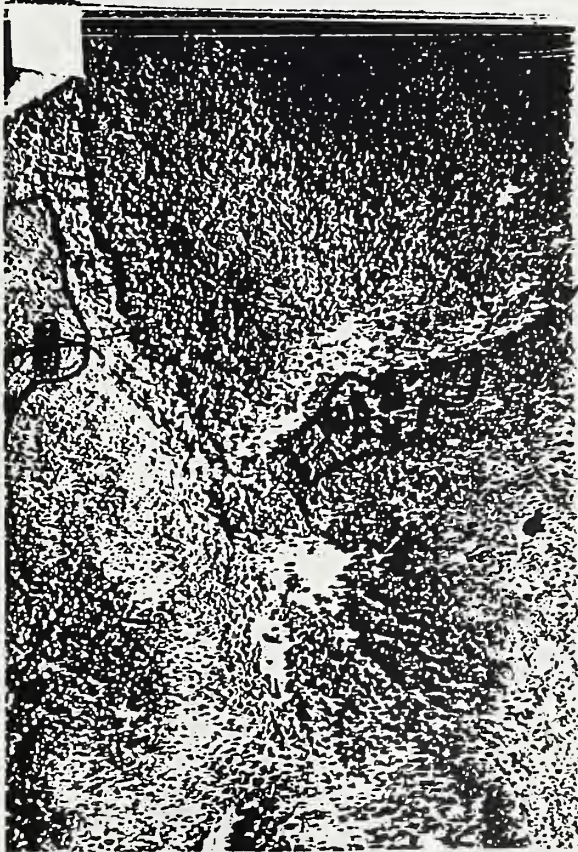
STATEMENT OF INTENT BY IDT: Southern two-thirds of unit has questionable soils, soils review needed prior to clearance at layout to determine if unit is loggable. If unit is loggable, one end suspension will probably be needed. If this portion of unit unloggable, combine loggable portion of unit with 331.		SILVICULTURE Cleared unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 94 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant series is western hemlock, predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. Possibly better 2/11/91 due to diversity.	
LOG SYSTEM <u>SL</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>400</u>		TIMBER & LOGGING Unit designed for downhill yarding with a slackline system. One end log suspension needed to protect sensitive soils.	
PHOTO INFO: YR <u>1984</u> FLT LN <u>46</u> STEREO PR <u>284-78/17</u>		ROADS & ACCESS name: <u>Richard R. Zabriskie</u> date: <u>2/11/91</u> ROAD <u>7532</u> . NO CONCERNS.	
1/4 QUAD ID: <u>PLANNED (ORTHO PHOTO)</u> SCALE: <u>1" = 12000</u>		name: <u>Richard R. Zabriskie</u> date: <u>2/14/91</u>	
		FISHERIES & HYDROLOGY name: <u>Richard R. Zabriskie</u> date: <u>2/14/91</u> RESOURCE CONCERNS: <u>NO HYDROLOGIC CONCERNS 8/31/90 DE.</u> <u>NO fish concerns 08-8/31/90</u>	
		name: <u>Richard R. Zabriskie</u> date: <u>2/14/91</u>	
		SOILS: <u>field review at time of layout.</u> date: <u>2/14/91</u>	
		name: <u>R. H. Weber</u> date: <u>2/15/91</u>	
		WILDLIFE: <u>loss of meadow and low value deer winter range.</u> date: <u>2/15/91</u>	
name: <u>M. J. Weber</u> date: <u>2/13/90</u>		name: <u>M. J. Weber</u> date: <u>2/13/90</u>	
RECREATION & VISUAL: <u>unit is in the place. Changes to 2050 condition inventory. Recreation has no visual concerns of this unit. - M. J. Weber</u>		RECREATION & VISUAL: <u>unit is in the place. Changes to 2050 condition inventory. Recreation has no visual concerns of this unit. - M. J. Weber</u>	
name: <u>M. J. Weber</u> date: <u>2/13/90</u>		name: <u>M. J. Weber</u> date: <u>2/13/90</u>	
CULTURAL: <u>unit is in the place. Changes to 2050 condition inventory. Recreation has no visual concerns of this unit. - M. J. Weber</u>		CULTURAL: <u>unit is in the place. Changes to 2050 condition inventory. Recreation has no visual concerns of this unit. - M. J. Weber</u>	
name: <u>M. J. Weber</u> date: <u>2/13/90</u>		name: <u>M. J. Weber</u> date: <u>2/13/90</u>	
Reviewed By: <u>Note used for soils participation during layout</u>		Reviewed By: <u>Note used for soils participation during layout</u>	
title: <u>James S. Burns Designated</u>		title: <u>James S. Burns Designated</u>	
Interdisciplinary Team Leader		Interdisciplinary Team Leader	
date: <u>2/18/91</u>		date: <u>2/18/91</u>	

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## UNIT DESIGN CARD

UNIT # 333 ACRES 14

STATEMENT OF INTENT BY IDT: North one-half of unit is extreme hazard soils, keep boundary at slope break of V-notch. One and log suspension needed in unit. No other resource concerns noted in proposed unit. This design will protect sensitive soils and water quality to ~ class III channel		SILVICULTURE RX SYNOPSIS Clearcut unit followed by natural regeneration. Site productivity is low. Predominant plant species is mountain hemlock. Predominant plant association is mountain hemlock/blackberry/cassiope. If possible, retain 2 snags per acre for diversity.	
UNIT DESIGN (PLANNED) LOG SYSTEM <u>SL</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>350</u> PHOTO INFO: YR <u>1984</u> FLT LN <u>46</u> STEREO PR <u>284-78/M</u> 1/4 QUAD ID: _____		TIMBER & LOGGING SYSTEMS DESIGNED FOR DOWNHILL SKIDING CABLE SYSTEMS IS PLANNED ONE-END SUSPENSION NEEDED TO PLANT SOILS. DIRECTIONALLY FEW AND SHUT YARD V-NOTCH AT UNIT'S NORTHERN END. <i>Planned by</i>	
PLANNED (ORTHO PHOTO) SCALE: <u>1:12,000</u>		ROADS & ACCESS 7532. KEEP ROAD ABOVE MUSKOGES.	
		name: _____ date: <u>2/14/91</u>	
		FISHERIES & HYDROLOGY name: _____ date: <u>2/14/91</u> RESOURCE CONCERNS: Pull unit boundary down to south side of V-notch to prevent loss of water quality. Stream, etc. 2/3/90. Unit 4000 in V-notch. No fish concerns 08/31/90.	
		name: _____ date: _____ SOILS: RESOURCE CONCERNS: Ensure that north boundary is pulled back to exclude extremely hazardous soils as shown on photo. Factual suspension would be needed in unit to minimize soil disturbance.	
		name: <u>R. H. H. H. H.</u> date: <u>2/15/91</u> WILDLIFE: RESOURCE CONCERNS: Loss of low and moderate value deer winter range.	
name: <u>M. H. H. H. H.</u> date: <u>9/13/90</u> RECREATION & VISUAL: RESOURCE CONCERNS: _____		name: _____ date: _____ CULTURAL: RESOURCE CONCERNS: _____	
name: _____ date: _____ CULTURAL: RESOURCE CONCERNS: _____		name: _____ date: <u>10/17/90</u> CULTURAL: RESOURCE CONCERNS: _____	
name: _____ date: _____ Reviewed By: _____		name: _____ date: _____	
LEGEND CLASS I STREAM CLASS II STREAM CLASS III STREAM BUFFER ZONE LANDING		UNIT BOUNDARY, NUMBER, + LOGGING METHOD <u>305</u> H EXISTING ROAD PLANNED ROAD	
title: _____		title: <u>James S. Burns Bayou</u> date: <u>2/18/91</u> Interdisciplinary Team Leader	

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STATEMENT OF INTENT BY IDT: Unable to access unit by road so helicopter unit, keep southwest boundary 500' from beach (beach fringe zone). Directionally fall timber away from notches in unit. Visuals and recreation have concern over cumulative effect of harvesting 334, 335, 336, 337, 338, 339 given VQO of modification. No other resource concerns noted. Beach buffer also protects recreation concern for forage due to less helicopter landing area.

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 500 Sd  
PHOTO INFO: YR 1984 FLT LN 47D STEREO PR 184-36/37  
1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12000



## LEGEND

- CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

(305)  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Partial cut unit, cut approximately 20% of the acres in small (2-5 ac), patchy clearcuts. Site productivity is high with an average site index of 47 (Fair). Predominant plant series is western hemlock, predominant plant associations are western hemlock/blueberry and western hemlock/blueberry's field fern.

## TIMBER &amp; LOGGING

## SYSTEMS

DESIGNED FOR HELICOPTER LOGGING SYSTEMS. Fly timber to landing along road below unit.

## RESOURCE CONCERNS:

DESIGNED FOR HELICOPTER LOGGING SYSTEMS. Fly timber to landing along road below unit.

Richard R. Zuber 2/11/91

date: 2-3-91

## ROADS &amp; ACCESS

UNIT 335 OR LAST LANDING ON THE RECONSTRUCTION OF ROAD 7531.

name: R. Zuber date: 2/14/91

date: 2-3-91

## FISHERIES &amp; HYDROLOGY

name: R. Zuber date: 2/14/91

## RESOURCE CONCERNS:

No fish concerns VGS 9/20/90

date: 2/14/91

## SOILS:

Unit has soils that have a high mass movement hazard. Recommend minimum surface disturbance and directionally fall timber away from V-notches.

## RESOURCE CONCERNS:

Describe the timber harvest from V-notches to power clear, or other activity do 1/4-91.

date: 2/14/91

## WILDLIFE:

name: R. Zuber date: 2/14/91

## RESOURCE CONCERNS:

Unit kept at least 500' from the burn.

date: 2/14/91

## RECREATION &amp; VISUAL:

name: M. J. Zuber date: 2/12/91

## RESOURCE CONCERNS:

Recommend a 300' buffer between beach and unit's skidder road, from a view. Skidder road has no view concern. Name: Clayton K. L. Zuber date: 10/1/90

date: 2/12/91

## CULTURAL:

name: M. J. Zuber date: 2/12/91

## RESOURCE CONCERNS:

Recommend a 300' buffer between beach and unit's skidder road, from a view. Skidder road has no view concern. Name: Clayton K. L. Zuber date: 10/1/90

date: 2/12/91

name:

date:

Reviewed By:

date:

title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 340

ACRES 35

STATEMENT OF INTENT BY IDT: Unit broken into five (5) potential watershed study areas, keep north boundary at ridge top. One end log suspension needed in unit. Keep central east boundary out of oversteeped slope area. Visuals and recreation have concern over cumulative effect of harvesting the 8 units in the area (331, 340, 341, 351, 352, 357, 358, 354).

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 875PHOTO INFO: YR 1984 FLT LN 470 STEREO PR 184-39

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE Clearcut unit followed by natural regeneration. Site productivity is moderate with an average site index of 83 (fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/leaves club. If possible, retain 2 snags per acre for diversity.  
Richard R. Zafra 2/11/91

TIMBER & LOGGING SYSTEMS DESIGNED FOR UPHILL LINE SKYLING/FLYGEZ  
CABLE SYSTEMS: REQUIRE ONE-END SUSPENSION. Numerous landings needed to split yard the many small V-notches in unit.  
name: Greg Kelly date: 2-5-91

ROADS & ACCESS RESOURCE CONCERNS: UTILIZE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN RECREATION AND POTENTIAL FISHING.  
name: John date: 2/14/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: Wetland Assessment (Hansen)  
control area for WQ monitoring project Die 5/31/90  
no fish concern VGS 8/31/90  
name: John date: 2/14/91

SOILS: RESOURCE CONCERNS: Recommend pulling eastern boundary down below oversteeped slopes in center of unit. Split yard on V-notches and partial suspension is needed to prevent degradation of the soils.  
name: R. H. H. H. date: 2/15/91

WILDLIFE: RESOURCE CONCERNS: Less of lowland (waterfowl)  
value deer winter range.  
name: M. J. Weber date: 2/13/90

RECREATION & VISUAL: RESOURCE CONCERNS:  
name: M. J. Weber date: 2/13/90

CULTURAL: RESOURCE CONCERNS:  
name: Richard R. Zafra date: 2/11/91

name: Richard R. Zafra date: 2/11/91

title: James S. Burns Baywater date: 2/18/91  
Interdisciplinary Team Leader

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## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: one end log suspension needed in unit. Visuals and vegetation have concern over cumulative effect of logging units 339, 340, 341, 351, 352, 357, 358, 359. Unit boundary cannot be overriden; doubtfull due to over-sloping slopes and slope breaks that would cause blindfolds. One end log suspension will minimize soil disturbance and sensitive soils.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 1600PHOTO INFO: YR 1984 FLT LN 470 STEREO PR 184-40

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H  
 EXISTING ROAD  
 PLANNED ROAD

UNIT # 341 ACRES 64

SILVICULTURE Rx SYNOPSIS  
 Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 90 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/bloody and western hemlock/bloody/lewis. If possible, retain 2 spruce/fir trees. 2/18/92

TIMBER & LOGGING SYSTEMS  
 DESIGNED FOR LUMBER LIVE SKYLING/FLYER CABLE SYSTEMS. RESOURCES: ONE-LOG SUSPENSION, MOUNTAIN INDICATED BOTTOM RUMBLE DUE TO OVERSTEEP SLOPES AND BLINDFOLDS.

ROADS & ACCESS  
 name: Long Lily date: 2-8-91

RESOURCE CONCERNS:  
 ACCESSED BY ROAD 7532. UTILIZE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN KERPAN AND PATAKAM.

name: J. L. L. L. date: 2/18/92FISHERIES & HYDROLOGY  
 RESOURCE CONCERNS:  
 NO CONCERNS (HYDROLOGY) DUE 8/31/90

no fish concerns UG 8/31/90

name:

SOILS:  
 RESOURCE CONCERNS: Recommend partial suspension to protect hazardous soils. date:name: R. Huerfano date: 2/15/91WILDLIFE:  
 RESOURCE CONCERNS: Loss of mature forest and high value deer-winter range, boundary avoids beach, forage and eagle trees.name: McTucker date: 9/13/90RECREATION & VISUAL:  
 RESOURCE CONCERNS:name: McTucker date: 10/18/90CULTURAL:  
 RESOURCE CONCERNS:

name:

Reviewed By:

title: James S. Burns Baygash date: 2/18/91  
 Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT #	ACRES
345	37

ACRES 37

STATEMENT OF INTENT BY IDT: Keep lower boundary 500' from beach (beach fringe zone). Split yard V-norch in northwest portion of Unit. Unit size and shape meets VGO of modification. Numerous landings may be needed to split yard V-norches to protect water quality.

UNIT DESIGN (PLANNED)

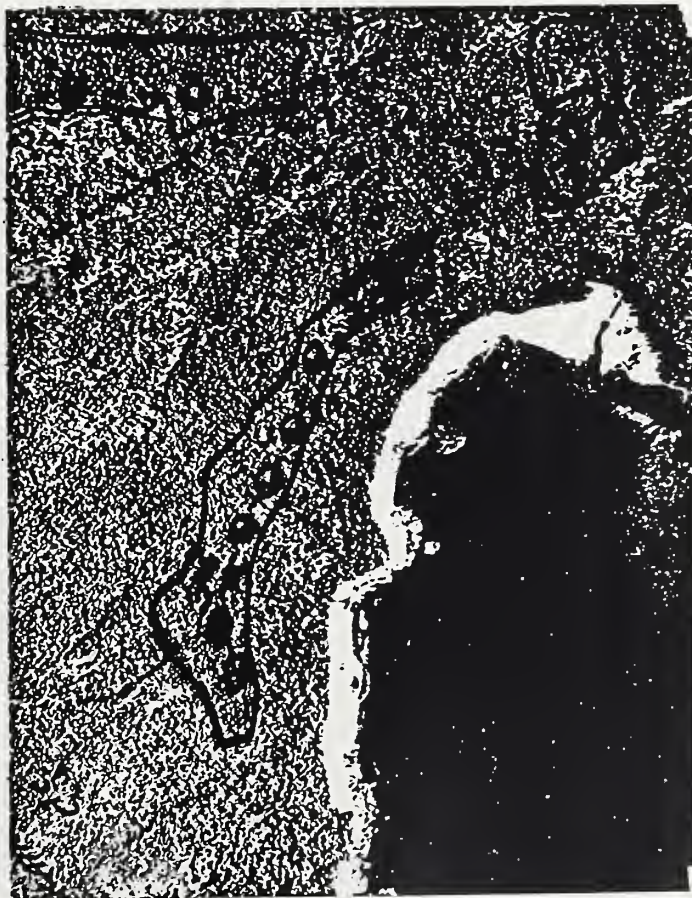
LOG SYSTEM	EST VOLUME/AC	TOT VOLUME
H	13	481

PHOTO INFO: YR 1984/ FLT LN 50 STEREO PR 284-14/

1/4 QUAD ID:

**PLANNED (ORTHO PHOTO)**

SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD	PLANNED ROAD

name:

Reviewed By:

title:

*Jean S. Burns Bayard*  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05

**SILVICULTURE**  
**Rx SYNOPSIS**

**SILVICULTURE**  
**Rx SYNOPSIS**

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 80 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. It possible, retain 7 snags per acre for diversity.

Richard R. Zedler 2/12/91

## TIMBER & LOGGING

IMBER & LOGGING SYSTEMS	RESOURCE CONCERNS:
Direct sawing stream. Many landings needed to split yard the numerous, small V-notches.	DESIGNED FOR DOWNHILL CABLE SYSTEMS

name: Reynold Luby

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD  
SITE, IF A ROCK PIT IS DEVELOPED IN UNIT, SCREEN  
FINDING VIEW IN KEROBAY

**name:**

FISHERIES &amp; HYDROLOGY

FISHERIES & HYDROLOGY	RESOURCE CONCERNS:	DATE
	SPLIT YAKED V-MOVED TO PULVERT CLASS III	WATER QUALITY. DK 8/31/90.
		NO FISH CONCERNS 6/5 & 8/31/90

name:

**SOILS:**

split yield in V-natch in northwestern part of unit

name:

name: R. H. ...

WILDLIFE: ☐ RESOURCE CONCERNS: Loss of moose because deer winter range. Boundary pulled back from the beach fringe.

name: M. T. Webster

## RECREATION &

**VISUAL:**

[illegible]

**CULTURAL:**

**CULTURAL:** **RESOURCE CONCERNS:** *See above comment 2/21/72, NE 2-1-12  
concerns as above, 7/14/72*

name:

name: \_\_\_\_\_  
date: \_\_\_\_\_



UNIT # 347 ACRES 70

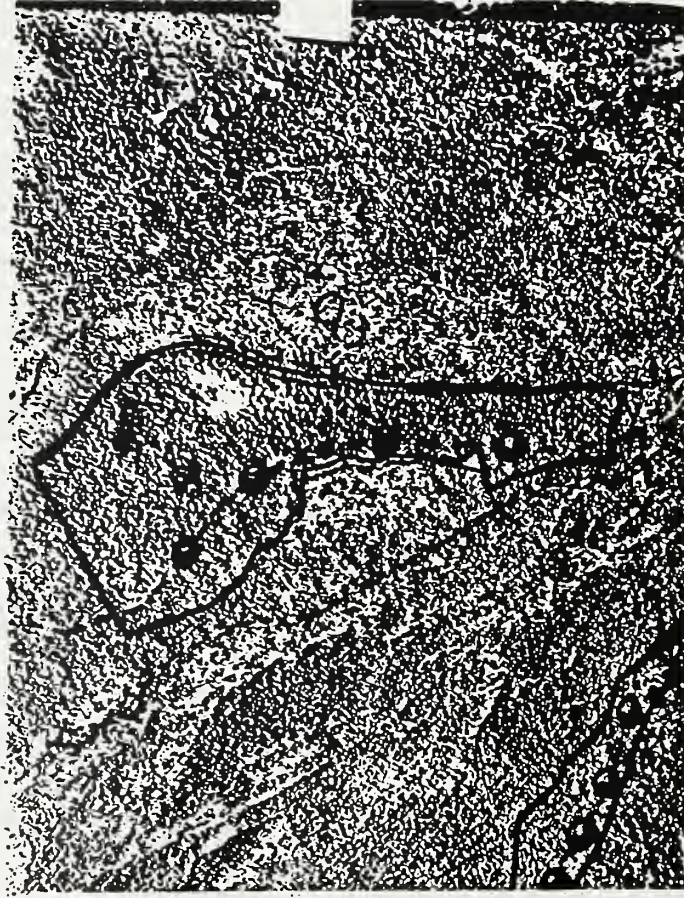
## STATEMENT OF INTENT BY IDT:

Unit now located along bottom 50 unit is new slackline due to retracts over 100'. Visuals has concern over unit boundary along vidgetop. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 13 TOT VOLUME 710  
 PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 284-14  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to Alaska cedar to retain current species composition. Site productivity ranges from low to high with an average site index of 85 (Fair). If possible, retain 2 snags per acre for diversity. Definitive R. 2/12/91

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR DOWNHILL SKIDING SYSTEMS TO PRODUCE ONE-END SUSPENSION TO PROTECT HIGH HAZARD REMOVAL SITES, AND FOR 1000 FT. PLUS REACHES IN MOUNTAINOUS AND name: Ray Lilly Tailholds may be a problem, backline along a creek. date: 2-8-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESS BY ROAD 2710. FUTURE VOLUME BEYOND THIS UNIT 50 WILL BE LONG TERM ROAD. GOOD LOCATION FOR A ROCK PIT

## name:

date: 2/14/91

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

Two fisheries concerns 8/31/90 CFS.  
 No resource concerns 8/31/90 CFS.

## name:

date:

SOILS: RESOURCE CONCERNS: No soils concerns but recommend split yarding on V-notches.

## name: P. Huerfano

date: 2/15/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of lowland meadow clear winter range.

## name: M. J. Weber

date: 2/13/90

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Change to land use 1000's units. For 100's.

## name:

date: 10/22/90

## CULTURAL:

## RESOURCE CONCERNS:

## name:

date:

Reviewed By: Note concern for locating adequate tailholds along backline adjacent to musby. Unit age slope may change some.

## title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 349 ACRES 91

STATEMENT OF INTENT BY IDT: Road now located along bottom so down hill yard. ~~the~~ Slackline System needed due to long reach and required one end log suspension. Tie backline into muskegs for visuals. Hydrology has concern over possible sediment delivery to stream below along southern portion of unit. Visuals and recreation has concern over cumulative effect of harvesting 347 348 349.

## UNIT DESIGN (PLANNED)

LOG SYSTEM S<sub>L</sub> EST VOLUME/AC 13 TOT VOLUME 1183  
 PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 284-16  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12000



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING  
 UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H  
 EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 55 (Fair). Predominant plant series are western hemlock and mountain hemlock. Predominant plant associations are western hemlock/blueberry and mountain hemlock/blueberry/copper birch. If possible, retain 2 snags per acre for diversity. Refined R. Z. Zolotarev 2/12/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS:  
 DESIGNED FOR DOWNSTREAM SUCCESSION CABLE SYSTEMS.  
 REQUIRE CING-END SUSPENSION. LOCATION OF BACKLINE WILL BE DETERMINED BY AVAILABILITY OF ADEQUATE TREES.

name: R. Zolotarevdate: 2-8-84

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7710, GOOD PLACE FOR A ROCK PIT

## FISHERIES &amp; HYDROLOGY

name: J. Leach date: 2/14/91  
 RESOURCE CONCERNS:  
 no fish concerns 08/9/79  
 Emphasis on to protect unstable areas, particularly adjacent to small north channel. Control and maintain permanent road drainage.

name: structuresdate: 2/22/90

## SOILS:

RESOURCE CONCERNS:  
 Steep slopes and potential for induced sediment production. Recommend practical suspension.

name: R. Huerfanodate: 9/17/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of lowland/mountain value deer/winter range.

name: M. J. Weberdate: 9/13/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By: Note concerns for adequate tail hole in log backline of unit. Unit edge on slope may change during burn in field.

title: James S. Burns, Supervisor  
 Interdisciplinary Team Leader  
 date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: Directionally fall timber away from V-notch along southeast boundary and in southeast corner of unit. No road access so helicopter yard unit. Recreational and visual concerns over cumulative effect of planestring units 334, 335, 336, 337, 350 given VQC of modification.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 1650  
 PHOTO INFO: YR 1984 FLT LN 47 STEREO PR 184-37/38  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12000



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- ⊙ LANDING

305  
H UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
--- PLANNED ROAD

UNIT # 350

ACRES 66

SILVICULTURE  
Rx SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 94 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant species are western hemlock and mountain hemlock. Predominant plant associations are western hemlock/blueberry and mountain hemlock/blueberry/leucosperma. It is possible to retain 25% of unit for diversity.

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

DESIGNED FOR HELICOPTER LANDING SYSTEMS. Fly timber by landing along trail below unit.

name: Ray J. Kellydate: 2-5-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZE A LANDING OR ROCK PIT ALONG ROAD 7531 TO FLY LOGS TO.

name:

date: 2/14/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns 08/9/20/90

Directionally fall timber away from V-notch along southeastern boundary and in southeast corner of unit.

name:

date:

## SOILS:

## RESOURCE CONCERNS:

Directionally fall timber away from V-notch along southeastern boundary and in southeast corner of unit.

name: R. Huetherdate: 9/17/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high value deer winter range. Acres slope orientation along with unit 537 and impede elevational wildlife migration.

name: M. T. Weberdate: 2/12/91

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Loss of high value deer winter range. Acres slope orientation along with unit 537 and impede elevational wildlife migration.

name:

date:

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 351 ACRES 82

STATEMENT OF INTENT BY IDT:  
High or extreme hazard soils in NW portion of unit. Directionally fall away from U-north in unit. Soil view needed to determine logability of NW portion. Unit broken into 2 for potential uranium shot study area, keep boundary on ridge top. Visuals and recording concerned about cumulative effect of workings 339, 340, 341, 351, 352, 353, 354, 355. Helicopter landing needs minimum 200 ft to hazardous soils.

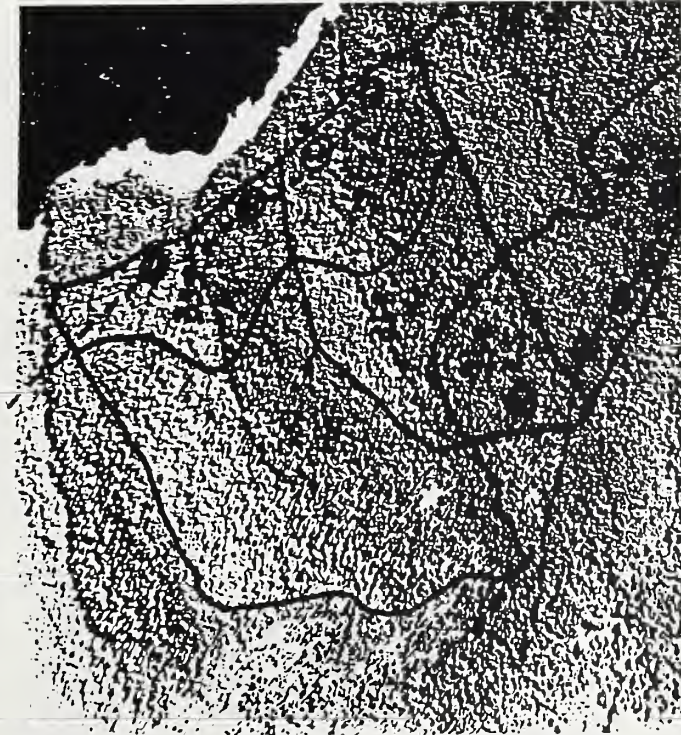
## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 2050PHOTO INFO: YR 1984 FLT LN 470 STEREO PR 184-39

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

- CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING
- 305  
H
- UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD
- EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS  
Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 68 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity.

Refined R. Zolotarev 2/11/91

## TIMBER &amp; LOGGING

SYSTEMS  
DESIGNED FOR HELICOPTER LOGGING SYSTEMS. DIRECTIONALLY FELL ARMY FIRM V-NOTES. NO ROAD ACCESS. Fly rimber to landing along road below unit.

name: Samuel

date: 2-8-91

ROADS & ACCESS  
RESOURCE CONCERNS: UTILIZE A LANDING ALONG ROAD 75321 TO FLY LOGS DOWN TO ON A LANDING ALONG ROAD 7532 TO FLY LOGS UP TO.

name:

date: 2/14/91

FISHERIES & HYDROLOGY  
RESOURCE CONCERNS: SALT 4-10 U-NORTH, FISHING. DIVERSITY WITH DIVERSITY ASSOCIATED SEVERAL CONCERNS IN NEW SECTION, AND UNIT DIVERSITY ASK TO UNDESIGNED. EXTENDING FISH CONCERN UNDESIGNED, (PROPOSED WQ MONITORING PLAN) NO FISH CONCERNS UG 8/31/90

name: DK

date: 8/31/90

## SOILS:

RESOURCE CONCERNS: EXTREME WASH WASTING WATERS IN NORTH SLOPELINE + WEST SECTION. ALSO SMALL PATCHES OF WASHED ZONE IN CENTRAL SECTION. DATE PARTIAL CONCERN: 1/10/91. DATE PARTIAL CONCERN: 1/10/91.

## WILDLIFE:

RESOURCE CONCERNS: LOSS OF HABITAT AND HIGH VALUE DEER WINTER RANGE.

name: M. J. Weber

date: 9/13/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title: James S. Burns Bugarski  
Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 352 Total  
ACRES 74

STATEMENT OF INTENT BY IDI: Keep east boundary 500' back from beach (beach fringe zone). Pull north boundary back to ridge top for potential watershed study area. Pick up area of steep slopes along southwest boundary (can be reached and logged from unit 340). Recreation and Visuals concerned about cumulative effect of harvesting 339, 340, 341, 351, 352, 357, 358, 359

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 350PHOTO INFO: YR 1984 FLT LN 470 STEREO PR 184-39

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000



## LEGEND

- CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Partial cut unit. Cut approximately 20% of the acreage with small (2-5 acre) patch clearcuts. Site productivity ranges from moderate to high with an average yield index of 91 (Fair). Preliminary plant species is western hemlock. Predominant plant associations are western hemlock/blackberry and western hemlock/blueberry/shield fern. If possible, retain 2 strings per acre for diversity.

## TIMBER &amp; LOGGING

## SYSTEMS

DESIGNED FOR HELICOPTER LOGGING SYSTEMS. DISCONTINUOUS FELL STRUCTURES IN UNIT. No road access. Fly number to landing along road northwest of unit.

name: Frankly date: 2-2-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZE A LANDING AT THE END OF ROAD 7532 TO FLY THE LOGS DOWN TO ONE A LANDING ALONG ROAD 7532 TO FLY LOGS UP TO.

name: Frankly date: 2/2/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: See water unit boundary  
Area to watershed boundary on stream. Please see  
Resource unit monitoring plan. DE 8/31/90  
No fish concerns UGS 8/31/90

name: Frankly date: 2/2/91

## SOILS:

RESOURCE CONCERNS: Full suspension to reduce on site moss existing hazards  
Helicopter landing will minimize soil ground  
disturbance

name: Frankly date: 9/20/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of habitat and highly  
valued deer winter range. Boundary adjusted to stay out of  
beach fringe.

name: M. J. Weber date: 9/13/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name: Frankly date: 2/2/91

## CULTURAL:

RESOURCE CONCERNS:

name: Frankly date: 2/2/91

## Reviewed By:

title: James S. Burned Buyaraki date: 2/18/91  
Interdisciplinary Team Leader

CMA-1900-05



## Alternative 2

UNIT #	ACRES
353	34

ACRES 34

ACRES 34

STATEMENT OF INTENT BY IDT: Unimble re access by road so helicopter  
 yard unit. Directionally fall timber away from notches along North-  
 west and Southeast boundaries and notch in center of unit.  
 Visuals and recreation have concerns over cumulative effects of  
 harvesting units 329, 330, 353, 365 and existing units given V&O  
 of modification.

UNIT DESIGN (PLANNED)

LOG SYSTEM	HE	EST VOLUME/AC	TOT VOLUME	\$50
		25		

PHOTO INFO: YR 19 84 FLT LN 46 STEREO PR 284-75/74

**1/4 QUAD ID:**

**PLANNED (ORTHO PHOTO)**

SCALE: 1:12000



## LEGEND

CLASS I STREAM

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

EXISTING ROAD	PLANNED ROAD

LANDING

**SILVICULTURE  
Rx SYNOPSIS**

average site index of 2 (hard) unit is adjacent to old hawser unit  
predominant plant series is western hemlock, predominant plant  
associations are western hemlock/blueberry shield fern and western  
hemlock/blueberry/devils club. If possible, retain 2 stands per acre  
Revised 3/11/91

TIMBER & LOGGING	RESOURCE CONCERNS:
<p>1. <b>Timber Harvesting:</b> Logging activities can lead to habitat fragmentation and loss of mature trees, which are crucial for many bird species.</p> <p>2. <b>Forest Management:</b> Sustainable forest management practices, such as selective logging and maintaining buffer zones, can help mitigate impacts on birds.</p> <p>3. <b>Logging Roads:</b> Construction and use of logging roads can increase access to previously isolated habitats, potentially leading to increased disturbance and fragmentation.</p> <p>4. <b>Fire Management:</b> Logging operations can alter the natural fire cycle, which may affect bird populations that rely on specific fire-dependent habitats.</p>	<p>1. <b>Habitat Loss:</b> Logging activities can lead to the destruction of nesting and foraging habitats for various bird species.</p> <p>2. <b>Fragmentation:</b> Logging roads and clearcuts can fragment forest habitats, isolating bird populations and reducing genetic diversity.</p> <p>3. <b>Disturbance:</b> Logging operations, including machinery use and road construction, can cause significant disturbance to birds, affecting their breeding and feeding behaviors.</p> <p>4. <b>Water Quality:</b> Logging activities can lead to increased sedimentation and runoff, which can degrade water quality in nearby streams and rivers, affecting aquatic and riparian bird species.</p>

## SYSTEMS

**name:** Raymond L. Kelly  
**date:** 2-8-86

ROADS & ACCESS RESOURCE CONCERNS: UTILIZE A LANDING ON ROAD 7531 UNDER THIS UNIT TO FLY LOGS TO.

**name:**

### FISHERIES & RESOURCE CONCERNS:

no further concerns 08/20/90

Discretionary Authority of Resident Study Fellow U-Multis to interview  
class at White County. Dec - 1-14-91

name:	code
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99	99
100	100

### SOILS: | RESOURCE CONCERNS:

directionality for all time-series away from V-networks

**name:** R. Huebner

**WILDLIFE:** **RESOURCE CONCERNS:** *loss of moderate and high*

032.

name: M. J. Weber

### RECREATION & RESOURCE CONCERNS:

## VISUAL

Kice has been a source of information. The contact was made  
 from a Kice site (10/10/19). Charges for KOS & transportation  
 name: \_\_\_\_\_ date: 10/10/19.

<b>CULTURAL:</b>	<b>RESOURCE CONCERNS:</b>
	10/11/92

**name:**

Reviewed By:

title: James S. Burns Biographical  
Interdisciplinary Team Leader

date: 2/18/91

**CMA-1900-05**



## UNIT DESIGN CARD

Alternative 4

Total  
ACRES 34

UNIT # 353

STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to visuals and recreation. If logging occurs near V-nurms, directionally fall timber away from these notches to protect sensitive soils.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 150PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-75174

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

Unit Boundary Existing Spec Rd.   
 Landing Planned Road   
 Split Line Temporary spur   
 Full Suspension Road closure   
 Partial Suspension (after haul)  
 Stream Streamside zone

## SILVICULTURE

## Rx SYNOPSIS

Partial cut unit with small (2-5 acre) group selection cuts. Cut areas should regenerate naturally. Site productivity ranges from low to moderate with an average site index of 62 (Fam). Unit is adjacent to old harvest unit. Predominant plant series is western hemlock. Cut approximately 20% of the acreage. R. Zuber 2/14/91

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to landing along road below unit. If logging occurs near V-nurms, directionally fall away from them.

name: Richard R. Zuber date: 2/14/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZE A LANDING ON ROAD 7531 UNDER THIS UNIT TO FLY LOGS TO.

name:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

date: 2/14/91

name:

## SOILS:

RESOURCE CONCERNS: Split yard on V-nurms or design cut to avoid them.

date:

name: R. Huecker

## WILDLIFE:

RESOURCE CONCERNS: loss of clearwater range.

date: 2/15/91name: M. J. Weber

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

date: 2/15/91

name:

## CULTURAL:

RESOURCE CONCERNS:

date:

name:

## Reviewed By:

date:

title:

James S. Bunn Buganski  
 Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 354 ACRES 37

STATEMENT OF INTENT BY IDT: Unable to access by road so helicopter yard units. Keep north-west boundary at V-notch slope break. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 481PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-108/107  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS  
 Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 80 (Fair). Unit is adjacent to old harvest unit. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry/clearly club (D), wpl. It is possible, pending 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

DESIGNED FOR HELICOPTER LOGGING SYSTEMS.

Discontinuing Fea Army from U-notch at NW corner. No road grade. Fly timber to landing along road. Below unit. Discontinuing Fea timber away from edge, past harvest unit. Name: Adams openings along unit boundary. date: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILITY SWITCHBACK ON ROAD 7737 AS HELICOPTER LANDING

name:

J. L. L. L.

date: 2/2/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Pull boundary to slope break along class 2 stream. UGS 9/20/90 (OR NO BUFFER).

name:

## SOILS:

## RESOURCE CONCERNS:

No soils concerns.

name: P. H. H. H.

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of low value deer winter range.

name: Michael Miller

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Changes to Road lines in center of road.

name:

## CULTURAL:

## RESOURCE CONCERNS:

name:

## Reviewed By:

title: James S. Burns Bayland  
 Interdisciplinary Team Leader

date: 2/18/91

CMA-1900-05



STATEMENT OF INTENT BY IDT: Just earned from the portion of unit 318 not in the 1000' estuary zone. Portions of unit would be shovel yarded, this needs to be determined at time of inventory. No other resource concerns noted. 10/19/90 Field Verbalized by R. West indicates unit is too steep to shovel yard. Requested 1 and suspension to protect organic soils.

LOG SYSTEM	45	EST VOLUME/AC	25	TOT VOLUME	325
UNIT DESIGN (PLANNED)					

PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-109/110  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

- . - . -	CLASS I STREAM		UNIT BOUNDARY, NUMBER,
- . . . -	CLASS II STREAM		+ LOGGING METHOD
- . . . .	CLASS III STREAM		
	BUFFER ZONE	(305)	EXISTING ROAD
①	LANDING	H	PLANNED ROAD

**SILVICULTURE  
Rx SYNOPSIS**

average site index of 71 (curd). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. Unit is adjacent to past harvest unit. It possibly, retain 2 stages per acre for self-seeding.

<p><b>TIMBER &amp; LOGGING</b></p>	<p><b>RESOURCE CONCERNS:</b></p>
------------------------------------	----------------------------------

DESIGNED FOR UNIL LIVE SKYLINE CAREE SYSTEMS

ROADS & ACCESS | RESOURCE CONCERNS: UNIT ALONGSIDE OF ROAD 7530, A TEMPORARY SPUR WILL ACCESS THE LANDING.

**name:**

FISHERIES &	RESOURCE CONCERNS:

HYDROLOGY	No fish concerns VGS 9/20/90
-----------	------------------------------

no hydrology concern

name: Stacy Panshin

SOILS:	RESOURCE CONCERNS: Request field review if unit is to be shovel yarded. Otherwise no concerns.
--------	--

name: R. Huecker

WILDLIFE:	RESOURCE CONCERNS: Loss of moose and velvet deer winter range.
-----------	--

name: M. J. Weber

RECREATION &	RESOURCE CONCERNS:

**VISUAL:**

observation has moved (once more) to the street. Location of  
 1000' from the site (Portage). Changes to KOS. for distance of  
 name: ex/10.  
 date: 11/15/2003

CULTURAL:	RESOURCE CONCERNS:
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name:

Reviewed By:

title:

## Interdisciplinary Team Leader

date: 2/8/71

CMA-1900-05



## UNIT DESIGN CARD

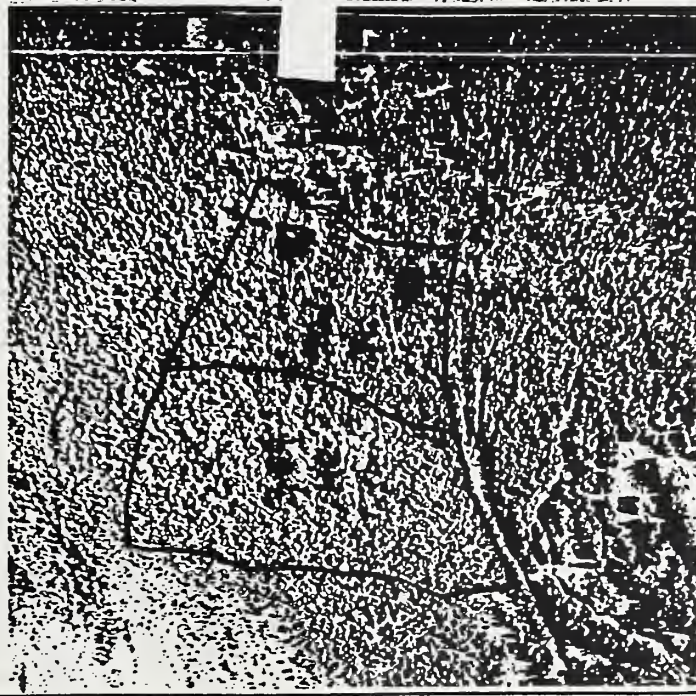
UNIT # 361 ACRES 52

STATEMENT OF INTENT BY IDT: If units 361 and 305 both harvested then extend south boundary of 361 to north boundary of 305. If 361 is not harvested, then keep south boundary north of the drainage. Visuals and recreation have concerns over cumulative effect of harvesting 305, 306, 361, 364. Partial suspension will minimize soil disturbance along V-Notch.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 1300PHOTO INFO: YR 1984 FLT LN 42 STEREO PR 284-118/1/4 QUAD ID: 117

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS: Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 88 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry shield fern and western hemlock/blueberry/shield fern club COP, WOI, IF. Possible, retain 2 snags per acre for diversity. R. Zolner 2/19/91

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

DESIGNED FOR DOWNHILL SKI-CLIMB CARE SYSTEMS TO PROVIDE SMC AND SUSPENSION TO PROTECT HIGH HAZARD POTENTIAL SUS. DIRECTIONAL FELL AND YARD AWAY FROM THE V-NOTCH/CLASS III STREAM AT SOUTHWEST CORNER.

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7530. IF A ROCK PIT IS LOCATED ALONG ROAD, SCREEN FROM VIEW AT LITTLE LAKE EVA.

## name:

date: 2/18/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

south unit boundary was moved back from Class III V-notch channel. No other water quality concerns identified. SVP No fish concerns UG 7/20/90

## name:

date: 9/20/90

## SOILS:

## RESOURCE CONCERNS:

If southern edge of unit is harvested, I recommend at least partial suspension over the V-notches in that area; full timber away from notches.

## name:

date: 9/17/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high-value OWR.

name: M. J. Weberdate: 2/12/91

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

## name:

date:

## CULTURAL:

## RESOURCE CONCERNS:

## name:

date:

## Reviewed By:

title: James S. Band Bengard date: 2/18/91  
Interdisciplinary Team Leader

CMA-1900-05

## UNIT DESIGN CARD

UNIT # **365** ACRES **29**

STATEMENT OF INTENT BY IDT: One end log suspension needed to minimize soil disturbance. Tie east boundary into brushfield. Visuals and recreation have concerns over cumulative effects of harvesting units 329, 330, 353, 365 and existing units given UGO of modification.

## UNIT DESIGN (PLANNED)

LOG SYSTEM **SL** EST VOLUME/AC **25** TOT VOLUME **725**  
 PHOTO INFO: YR **1984** FLT LN **46** STEREO PR **284-75174**  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: **1:12,000**



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

**305 H** UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clean-cut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 71 (Fair). Predominant plant species are western hemlock and mountain hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and mountain hemlock/blackberry/leucospora. If possible, retain 2 snags per acre for diversity. Redwood R. Redwood R.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS:  
 DESIGNED FOR DOMESTIC SCAVENGING CARP SYSTEMS. Requires one-end suspension to minimize impact to sensitive soils.

name: **Ken Kelly**

date: **7-28-91**

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY TRAILER DRIVE OFF OF END 7720. USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN PUEBLO ARM.

name:

date: **2/18/91**

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

**No fish concerns UGS 9/20/90**  
**No hydrology concerns at 1-14-91**

name:

date:

## SOILS:

Unit contains soils that have a high mass movement hazard. Recommend partial suspension to protect soil productivity.

name: **R. Huchel**

date: **9/17/90**

## WILDLIFE:

RESOURCE CONCERNS: **loss of moderate DWR.**

name: **M. J. Weber**

date: **2/12/91**

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

Recreation has concerns from views of the unit. Unit is within 200' of the site (Heritage). Changes to L.O.S. and views are in progress.

name: **Ken Kelly**

date: **7/23/90**

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

## Reviewed By:

title: **James S. Burns** **Burns**  
 Interdisciplinary Team Leader

date: **2/18/91**

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 400 ACRES 63

STATEMENT OF INTENT BY IDT: Split yard big V-notch in upper portion of unit keep east, central boundary out of small muskeg. UQC is partial retention, perspective plot needed to determine if this can be met. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 819PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-110/111

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Cleaveland unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas to should regenerate naturally. Consider planning mixed conifer areas to alaskan cedar to retain current species composition. Site productivity ranges from low to high with an average site index of 74 (Fair). Unit is adjacent to past harvest unit. If possible, retain 2 snags per acre for diversity. Richard R. Salvo & 2/16/91

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

DESIGNED FOR DENSIFICATION HIGHER CABLE

SYSTEMS: DIVERSIFICATION FELL AND SPUR YARDS V-NOTCH. Additional landings may be needed to avoid possible blind lands.

name: Richard R. Salvodate: 2-7-91

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

UNIT ACCESS BY ROAD 7720. ADDITIONAL FUTURE VOLUME REQUIREMENTS LONG TERM ROAD. TO START TEMPORARY SPURS MAY BE REQUIRED TO REACH THE SOUTHERN LANDINGS.

date: 2/13/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns up to 2/20/90

Split yard central V-notch within the unit to minimize erosion risks and risks to water quality.

name: Steve / Vanstondate: 2/13/90

## SOILS:

## RESOURCE CONCERNS:

Split yard on deep V-notch that disrupts unit.

name: R. H. Huelkendate: 1/17/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high value deer winter range.

name: MT. Walkerdate: 9/13/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Recreation has been a concern of this unit. Changes in KOD & Roadline are noted.

name: MT. Walkerdate: 10/11/90

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

Reviewed By:

John S. Burns, Supervisor  
 Interdisciplinary Team Leader

date: 2/16/91

CMA-1900-05



## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: Keep southeast corner of unit from Class II stream. Keep 300' wildlife corridor (no cut) between lands 315 and 401. 401 is partial vegetation perspective plot used to determine if this can be met. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 403  
 PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-110/111  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12000



## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 ( ) LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
 (305 H)

EXISTING ROAD  
 --- PLANNED ROAD

UNIT # 401 ACRES 31

SILVICULTURE Rx SYNOPSIS: Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 77 (Class II). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blackberry and western hemlock/blueberry/skunk cabbage. If possible, retain 2 snags per acre for diversity.

Revised R. Zolner & J. H. 1984

## TIMBER &amp; LOGGING

SYSTEMS: DESIGNED FOR DOMINANT WOODLAND CIRCLE SYSTEMS. Directionally fall timber away from stream buffer along east boundary.

name: Forest City

date: 2-2-91

ROADS & ACCESS: 7720. no concerns

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD

name: Forest City

date: 2/13/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: Class II stream in SE corner of unit. Pull back 100' or to wind from boundary.

No water quality concerns. Stream function: 1/10/90

name: Forest City

date: 2/13/91

## SOILS:

RESOURCE CONCERNS: No soils concerns

name: R. H. H. H. H.

date: 2/13/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of high-value deer winter range. Boundary adjusted to leave a 300' corridor along the ridge between 401 and 315.

name: R. H. H. H. H.

date: 2/13/91

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS: None

## CULTURAL:

name: Forest City

date: 2/13/91

## CULTURAL:

RESOURCE CONCERNS: None

name: Forest City

date: 2/13/91

Reviewed By: James S. Bernal

title: Interdisciplinary Team Leader

date: 2/10/91

CMA-1900-05







## UNIT DESIGN CARD

UNIT # 403 ACRES 32

STATEMENT OF INTENT BY IDT: Keep northern boundary at V-notch, do not yard legs across this notch. Visuals and recreation have concerns over cumulative effect of harvesting units 403, 403, 405, 408 considering VAC of partial retention. If unit is harvested, there is a good chance of snagging debris in Class I stream below through mass wasting. Soils review needed to determine potential mass wasting hazard.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 13 TOT VOLUME 416

PHOTO INFO: YR 1984 FLT LN 47 STEREO PR 184-33/31  
 1/4 QUAD ID: 34

PLANNED (ORTHO PHOTO) SCALE: 1" = 12,000'

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 - - - - - CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD305  
H

EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Cleared unit followed by natural vegetation. Site productivity ranges from moderate to high with an average site index of 85 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/deciduous. It is possible return 2 snags per acre for diversity. Richard R Ziegler 2/13/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR JOINT LIVE SKYLING / FEWER CABLE SYSTEMS. INTERMEDIATE TALL AND SHORT YARD VARIATION AT NORTH END OF UNIT AND SOUTH END MAY NEED A SETTING IN THE SOUTH SIDE OF THE SOUTH YARD TO ACCOMMODATE SPLIT YARD date: 2-6-91

name: Richard R Ziegler

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESS BY ROAD 7701. A temporary spur will be needed to reach the northern boundary.

name: Carldate: 2/1/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns V88 9/20/90

No concerns with unit, but there is a high concern for potential mass wasting with unit. road location recommended soils with review. (submitted)

name: Steve Tantondate: 2/13/90

## SOILS:

## RESOURCE CONCERNS:

Splintered on V notch in northwest part of unit or more boundary to other side of the V notch and eliminate the corner. Complete fill in unit. not field review by a soil scientist is recommended

name: R. Hatcherdate: 1/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of moderate and high value deer winter range,

name: Michael Millerdate: 9/1/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

name: Michael Millerdate: 9/1/90

## CULTURAL:

## RESOURCE CONCERNS:

name: Michael Millerdate: 9/1/90title: James S. Grand Bayou

Interdisciplinary Team Leader

date: 2/13/91

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## UNIT DESIGN CARD

UNIT # 408

ACRES 24

STATEMENT OF INTENT BY IDT: keep east boundary 100' from Class I stream. High value bear habitat along stream, wildlife wanted 200' stream buffer so effects will be tracked in EIS. Visuals and recreation have concerns over cumulative effect of harvesting 403, 405, 408 given VGO of partial retention. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 600PHOTO INFO: YR 1984 FLT LN 47 STEREO PR 184-34/33  
1/4 QUAD ID: \_\_\_\_\_PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING  
 (H) UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

Clearext unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to Alaska-cedar to retain current species composition. Predominant plant associations are western hemlock/blueberry and mixed conifer/blueberry/sitka spruce. If possible, retain 2 snags per acre for diversity. *Redwood R. 3/12/91*

## TIMBER &amp; LOGGING

SYSTEMS  
 fall timber away from stream buffer along east boundary.

## RESOURCE CONCERNS:

DESIGNED FOR LARGE SKYLINE SYSTEMS. Directionally fall timber away from stream buffer along east boundary.

name: *Roy Lilly*

date: 2-6-91

## ROADS &amp; ACCESS

ROAD 7701 34 TWO TEMPORARY SPURS.

name: *J. Lee*

date: 2/14/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

was waiting concern related to mil in log road securing this unit. No water quality concern with unit itself. Pull back 100' min. or suballong boundary along Class I stream in U.S. putting limit 100' 3/12/91

name: *Steve / P. ...*

date: 9/13/90

## SOILS:

## RESOURCE CONCERNS:

No concerns related to unit.

name: *R. Huescher*

date: 9/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high-value clearcut bear habitat. 200' buffer along Class I stream recommended.

name: *Michael ...*

date: 9/18/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Recreation has no concerns on the unit. Changes to 200' 4/12/91

name: *...*

date: 9/15/90

## CULTURAL:

## RESOURCE CONCERNS:

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

title: \_\_\_\_\_

*Jan S. Lund*  
 Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 411 ACRES 61

STATEMENT OF INTENT BY IDT: One end log suspension needed to minimize soil disturbance. Split yard V-notch in central portion of unit. Recreation and visuals have concerns over cumulative effects of harvesting 406, 407, 408, 409, 411, 412, 416 given UGO of partial retention.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 13 TOT VOLUME 793PHOTO INFO: YR 1984 FLT LN 47 STEREO PR 184-35734

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska-cedar to maintain current species composition. Unit adjacent to old harvest unit. If possible, leave 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR MODERN SCALING SYSTEMS: REQUIRE ONE-END SUSPENSION OVER UNIT AND V-NOTCHES. SPLIT YARD-Y-NOTCH RETURNED TO ORIGINAL LAYING. DIRECTIONALLY FELLING FROM V-NOTCH. Tailholds and their fields may be a problem name: Planning date: 2-6-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED OFF OF ROAD 2700.

## name:

J. Lutzdate: 2/14/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

Wetland concerns UGS 9/30/90

Emphasize BMP's to protect unstable areas, and erosion control measures at landings.

Implement suspended log yarding practices for V-notch drainage.

name: S. Panton date: 2/27/91

## SOILS:

RESOURCE CONCERNS: Several small V-notches in northern part of unit and a high mass movement potential on the steeper slopes below the backline. Recommend that least partial suspension over V-notches and on slopes steeper than 10 percent to protect soil productivity and to minimize the introduction of sediment into stream.

## WILDLIFE:

RESOURCE CONCERNS: Loss of lowland moose habitat value deer winter range.

## name:

Michael M. Meehandate: 9/18/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Recreation has several concerns w/ this unit. Change to UGS 9/30/90

## name:

Michael M. Meehandate: 9/18/90

## CULTURAL:

## RESOURCE CONCERNS:

## name:

date:

Reviewed By: Note concern for locating tail holds at lower tie down along adjacent muskego. High productivity unit size on slope may change during field layout.

## title:

James S. Baird

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 413 ACRES 36

STATEMENT OF INTENT BY IDT: Visuals and vegetation have concerns over cumulative effects of harvesting 406, 407, 408, 409, 411, 412, 416 given view of partial retention. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25/25 TOT VOLUME 900PHOTO INFO: YR 1984 FLT LN 47 STEREO PR 184-35/36

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
305  
H

EXISTING ROAD  
 ---  
 PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS: Charcut unit followed by natural regeneration. Site productivity is low. Predominant plant series is western hemlock with some inclusions of mixed conifer. Predominant plant association is western hemlock/blueberry. It is possible, within 25 years per acre for diversity.

Refined R. Zolotarev 2/12/91

## TIMBER &amp; LOGGING SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR BURNING (HIGHER LEARNING SYSTEMS). Tower structures may be a problem, adjacent to a meadow.

name: Ray Lubydate: 2-2-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD

7700.

name:

date: 2/11/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns 088 9/20/90

name:

date: 9-13-90

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

name: R. Hurddate: 9/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of meadow value due to winter range.

name: Michael McKeondate: 9/18/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Changes to 2000 Roadless inventory.

name:

date: 9/17/90

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

Reviewed By: Note concerns for locating burn to down on hillside adjacent to meadows. Probability of site in slope may change during field layout.

title:

Interdisciplinary Team Leader

date: 2/15/91

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## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: No resource concerns noted by ID team. Researcher has visualized the overall unit design could not satisfy those concerns.

UNIT DESIGN (PLANNED)  
LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1375  
PHOTO INFO: YR 1984 FLT LN 47 STEREO PR 184-36  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 H UNIT BOUNDARY, NUMBER, + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

UNIT # 414 ACRES 5.5

SILVICULTURE Clearcut unit followed by natural regeneration. Site productivity is high with an average site index of 93 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant species is western hemlock. Predominant plant associates are western hemlock/blueberry/shield fern and western hemlock/blueberry devil's club (DBW). If possible, retain 2 snags per acre for diversity. *Refined for diversity*

TIMBER & LOGGING SYSTEMS RESOURCE CONCERNS: DESIGNED FOR DURNACE HIGH-LEAD CABLE SYSTEMS. DURNACE FEW UNIT TO AVOID ADVERSE IMPACTS TO WADSWORTH TRAIL UNIT. Tailhalls and near headways may be a problem. name: *Wadsworth* date: 2-8-91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY A TEMPORARY SPUR OFF OF ROAD 7700. GOOD LOCATION FOR A ROAD AT ON WEST END OF UNIT.

FISHERIES & HYDROLOGY RESOURCE CONCERNS: *no fish concerns* date: *2/14/91*  
*NO HYDROLOGY CONCERNS DE 1-14-91*

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_  
No soils concerns identified

name: *P. Murchison* date: *9/17/90*  
WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: *loss of lowland, moderate*  
*D.V.R. habitat in access slope could impede WL travel.*

name: *M. J. Tarpey* date: *2/12/91*  
RECREATION & VISUAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

*Recreation has minimal concerns at this point. Change to 2005 in Roadless Inventory.*  
name: *M. J. Tarpey* date: *10/17/90*

CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_  
name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By: *site concerns for adequate tailhalls in adjoining meadow area. High probability unit size or slope may change during layout*  
title: *James S. Bernal Beyerle* date: *2/18/91*  
Interdisciplinary Team Leader

GMA-1900-05



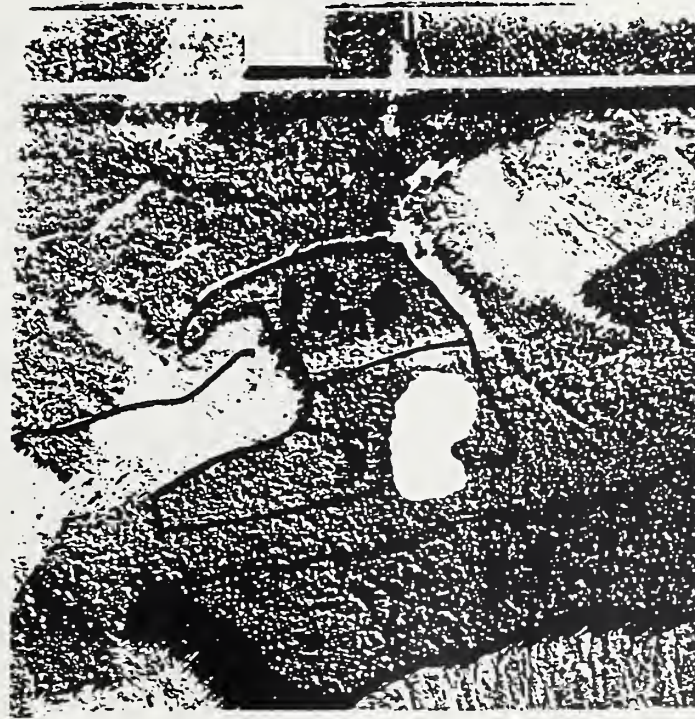
## UNIT DESIGN CARD

UNIT # 416 ACRES 2.9

STATEMENT OF INTENT BY IDT: Do not move backline further uphill to reduce chance of mass wasting. Visuals and vegetation have concerns over cumulative effect of harvesting 406,407,416. Given V40 of partial retention. With current unit design there is still a good chance of mass wasting and sediment delivery to Class I stream below it. Unit harvested. Soils review needed to determine potential mass wasting hazard.

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 377  
 PHOTO INFO: YR 1984 FLT LN 47 STEREO PR 184-33/321  
 1/4 QUAD ID: 34

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ||||| CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
305  
H

EXISTING ROAD  
 ---  
 PLANNED ROAD

SILVICULTURE Clearcut unit. Predominant plant species are mixed conifer areas to Alaska cedar to western hemlock. Consider planning mixed western hemlock areas should regenerate naturally. Predominant plant associations are mixed conifer/blueberry and western hemlock/blueberry. Unit adjacent to old harvest unit. If possible, retain 2 swags per acre for diversity. Revised R. Zelenko 3/12/91

TIMBER & LOGGING SYSTEMS  
 DISTURBED FORE MANAGEMENT AND OTHER MANAGEMENT SYSTEMS, Directionally fall timber away from stream along eastern boundary and away from adjacent, past harvest unit. date: 2-6-91

name: Reynolds RESOURCE CONCERNS: UNIT ACCESSED AFTER  
 ROAD & ACCESS SPUR FROM ROAD 7741

name: Reynolds date: 2/14/91

FISHERIES & HYDROLOGY  
 High sediment delivery potential to Class I channel in the event of large mass wasting event. Recommend for sediment delivery to Class I stream by 8/15/90

name: Reynolds date: 2/14/91

SOILS: RESOURCE CONCERNS: Large slides adjacent to unit one of which has reached the stream. Recommend field review

name: Reynolds date: 2/14/91

WILDLIFE: RESOURCE CONCERNS: Loss of high value deer winter range.

name: Reynolds date: 2/14/91

RECREATION & VISUAL: RESOURCE CONCERNS:

name: Reynolds date: 2/14/91

CULTURAL: RESOURCE CONCERNS:

name: Reynolds date: 2/14/91

name: Reynolds date: 2/14/91

name: Reynolds date: 2/14/91

name: Reynolds date: 2/14/91

name: Reynolds date: 2/14/91

name: Reynolds date: 2/14/91

name: Reynolds date: 2/14/91

name: Reynolds date: 2/14/91

title: Interdisciplinary Team Leader date: 2/15/91

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## UNIT DESIGN CARD

UNIT # 419 ACRES 33

STATEMENT OF INTENT BY IDT: Split yard V-notch in central portion of unit. Good chance of mass wasting and sediment delivery to Class I stream below if unit harvested. Soils review needed to determine mass wasting potential.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 950  
 PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-67  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:11,000



## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER  
305  
 H

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity is high with an average site index of 99 (fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant series is western hemlock. Precommercial plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry/devils club CNF. Possible retain 2 snags per acre for diversity. *Revised R 3/20/90 2/2/91*

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

## SYSTEMS

DESIGNED FOR INDUSTRIAL HIGHLAND CARE SYSTEMS. SPLIT YARD V-NOTCH. DIRECTIONALLY FELL ONLY FROM V-NOTCH.

name:

*Randy Lilly*date: 2-6-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT IS ACCESSED BY ROAD

"V" NOTCH.

name:

*A. Lutz*date: 2/11/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Slide potential in west portion of unit UFS. High sediment delivery potential from mass wasting. Recommend site review of unit and road location to determine landslide hazard.

name:

date: 9/15/90

SOILS: RESOURCE CONCERNS: Recommended split yarding on the V notch that crosses through center of unit. Existing landslide along northern boundary - recommended moving boundary to the south of on site review to minimize infiltration of sediment into stream and potential soil productivity. name: *W. Hunscher*

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of moderate value deer winter range.

name:

*Michael Pfeiffer*date: 9/18/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Recreation has minimal concern w/ this unit. Changes to LOS & land use are minimal.

name:

date: 9/15/90

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

Reviewed By: Note concern for past knowledge in area. Field review may result in changing unit size or slope or deleting unit between DEIS & FEIS.

*James S. Bernd Baygarek*

title:

Interdisciplinary Team Leader

date: 2/15/91

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STATEMENT OF INTENT BY IDT: Split yard Unit in central portion of unit. No other resource concerns north recreation. Visuals have concern for cumulative effects of units 417, 418, 419 & 420. If all are harvested at the same time.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 2350PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-67

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305 UNIT BOUNDARY, NUMBER  
 H + LOGGING METHOD

EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit, predominant plant series are western hemlock and mixed conifer, western hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 89 (Fair). If possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

## SYSTEMS

SAFETY: NO PROBLEMS. QUESTIONABLE GUY ANCHORS AT BACK OF TADPOLES. ADEQUATE TAILWINDS IN NORTHWEST. RUMBLE OF UNIT ON WENCHANG MAY BE OPENED. DIRECTLY TO THE LEFT - NOTES: RUMBLE FOR BLINDLETS IN NORTHWEST CORNER name: King Kelly of unit. date: 7-6-91

## RESOURCE CONCERNS:

DESIGNED FOR UPHILL LIVE SKYLINE CABLE SYSTEMS.

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD

## name:

J. Coate date: 2/11/91

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY

Pro fish concerns 088 9/7/90

Split yard unit in the center of this unit.

Steve / Parvian

name:

SOILS: RESOURCE CONCERNS: date: 9/15/90

Split yard unit in center of unit

## name: R. Decker

WILDLIFE: RESOURCE CONCERNS: Loss of moderate value.

deer winter range.

name: Michael O'Keefe

RECREATION &amp; RESOURCE CONCERNS: date: 9/18/90

VISUAL:

Recreation concerns concerns w/ this unit. Changes follow

w/ Kaddler in center of unit.

name:

CULTURAL: RESOURCE CONCERNS: date: 9/27/90

name:

date:

Reviewed By: Note concerns for guy anchors behind

Landings Portion: of unit "barely" need profiles to determine

feasibility of logging. High probability unit size / slope may

change during Jano S. Burns Baymaster

legend.

title: Interdisciplinary Team Leader

date: 2/15/91

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## Alternative 4

## UNIT DESIGN CARD

Total  
ACRES 94

UNIT # 420

STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to visuals, wildlife and soils/hydrology. North portion of unit in high slide probability zone. Try to avoid yarding near Unwin but if they are logged, split yard these nozzles.

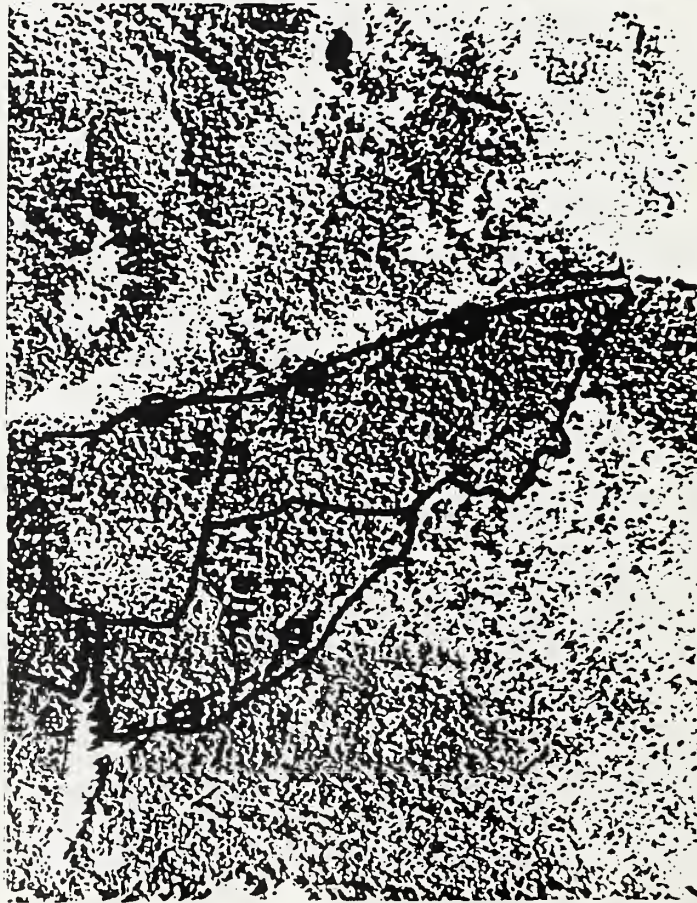
## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 450PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-67

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1" = 1200'



## LEGEND

Unit Boundary       
 Landing       
 Split Line       
 Full Suspension       
 Partial Suspension       
 Stream     

Existing Spec Rd.       
 Planned Road       
 Temporary spur       
 Road closure       
 (after haul)       
 Streamside zone     

SILVICULTURE Partial cut unit. Cut approximately 20% of the acreage with group selection. Cut skyline considers.       
 RX SYNOPSIS       
 Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally, consider planting mixed conifer areas to alaska-cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 89 (unr).       
 Redwood R.      2/14/91

TIMBER & LOGGING       
 SYSTEMS       
 be needed to do partial cut. If V-notches are logged, directional fall away from these and split yard them. Minimize harvest in north portion of unit due to high slide probability. Tailholds may be a problem due to name: Redwood R.      adjacent west side, date: 2/14/91

ROADS &amp; ACCESS RESOURCE CONCERNS:

name:      date:     

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY     name:      date:     SOILS:      RESOURCE CONCERNS: Recommend designing cut to avoid V-notches in the center of the unit or split yard on the notches.name:      date:     WILDLIFE:      RESOURCE CONCERNS: Loss of deer winter range. Partial cut would mitigate size and orientation of unit across the slope. Snag retention may be unnecessary.name:      date:     

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:      date:     name:      date:     CULTURAL:      RESOURCE CONCERNS:name:      date:     

Reviewed By: State Concerns for "bendy" unit and need for tailholds at landings. High probability unit size on slope will change during layout.

title:      date:     Interdisciplinary Team Leader      2/15/91

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## UNIT DESIGN CARD

UNIT # 421

ACRES 54

STATEMENT OF INTENT BY IDT: No resource concerns noted by ID team. Recreation notes visual concerns.

SILVICULTURE  
Rx SYNOPSIS  
Clearcut unit followed by natural regeneration. Site productivity is low. Predominant plant series is mountain hemlock. Predominant plant associations are mountain hemlock/berry and mountain hemlock/blackberry/copper bush. If possible, retain 2 snags per acre for diversity.

Reviewed R. Zafornil 2/12/91

UNIT DESIGN (PLANNED)  
LOG SYSTEM L5 EST VOLUME/AC 13 TOT VOLUME 702

PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-66165  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
||||| BUFFER ZONE  
⊙ LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD  
(305)  
H

EXISTING ROAD  
---  
PLANNED ROAD

## TIMBER &amp; LOGGING SYSTEMS

DESIGNED FOR OPTIMAL LIVE SKYLARK / FLYER CARP. SYSTEMS, BUT TO MINIMIZE, BUY ANCHORS MAY BE HELD TO FIND AT ROAD. OF LANDINGS MAY NEED SOME SORT OF REINFORCEMENT. Additional landings may be needed along lower road.

name: R. Zafornil date: 2-8-91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7730. NO CONCERNS. ADDITIONAL VOLUME ACCESSED PART UNIT.

name: ILC date: 2/10/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: No fish concerns 10/8 9/20/90

No water quality concerns.

name: Steve Pankster date: 9/20/90

SOILS: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

No soils concerns

name: R. Zafornil date: 9/14/90

WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: Loss of mountain deer winter range. Unit extends 300' across the slope with sparse low volume timber above and below the unit.

name: Ilk date: 9/18/90

RECREATION & VISUAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

Recreation has visual concerns w/ this unit. Changes to KOS & headwaters in unit.

name: Ilk date: 9/28/90

CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed By: Note concerns for locating tail hoisted in musky areas. Any anchors may be difficult to locate at steep landings. High probability unit may change in size / slope during James S. Burned Buryable layout. Interdisciplinary Team Leader

title: \_\_\_\_\_ date: 2/15/91

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STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce impacts to visuals and hydrology. Try not to log near V-notches, but if logging occurs near V-notches, split yard them. Do not log ravine in southwest portion of unit along boundary, leave this as a wildlife island.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 221  
 PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-65/66  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:11,000



## LEGEND

Unit Boundary Existing Spec Rd.   
 Landing Planned Road   
 Split Line Temporary spur   
 Full Suspension Road closure   
 Partial Suspension (after haul)  
 Stream Streamside zone

SILVICULTURE Partial cut unit, cut approximately 20% of the acreage with group selection, cut skyline corridors. Try to not log the ravine along south boundary. Try to angle corridors to reduce visual impacts. Site productivity ranges from low to moderate with an average site index of 65 (Fair). Redgummit plant species are mountain and western hemlock. cut areas should regenerate naturally. Redland R. Zolotarev 2/14/91

TIMBER & LOGGING RESOURCE CONCERNS: Unit designed for uphill systems yarding with a live skyline flyer system. Lower tie downs may be a problem adjacent to a muskeg. If yarding occurs near V-notches, directionally fall away from these notches and split yard them. Angle corridors to reduce visual impacts. name: Redland R. Zolotarev date: 2/14/91

ROADS & ACCESS RESOURCE CONCERNS:

name:

date:

FISHERIES & HYDROLOGY

RESOURCE CONCERNS:

name:

date:

SOILS:

RESOURCE CONCERNS: Recommend designing the partial cut to avoid V-notches in the eastern part of unit. Otherwise split yard on the notches.

name: R. H. Hovenden

date: 2/14/91

WILDLIFE:

RESOURCE CONCERNS: Loss of deer winter range and marten habitat. Partial cut would make snag retention unnecessary.

name: M. J. Weber

date: 2/15/91

RECREATION & VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

Interdisciplinary Team/Leader

date: 2/27/91

CMA-1900-05



# Alternatives 3,5

## UNIT DESIGN CARD

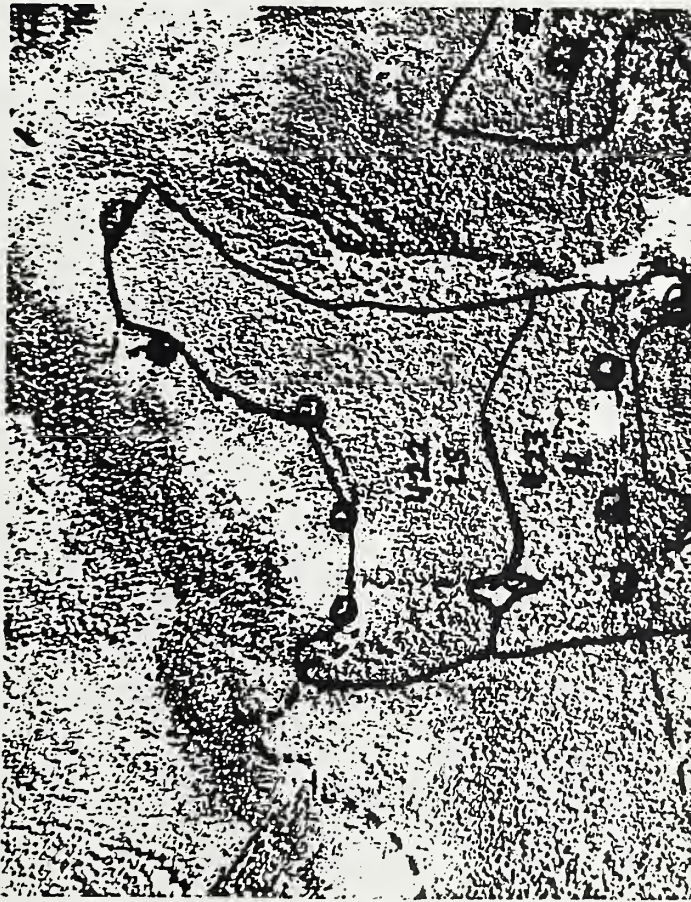
UNIT # 422 ACRES 86

STATEMENT OF INTENT BY IDT: Split yard V-notch in western portion of unit. Keep north east boundary out of wet soils. Tie upper boundary into muskeg for visuals. Do not log ravine in southwest portion of unit (along southern boundary), leave this for wildlife as an island of timber. Unit in primitive area, logging in this area would change that experience. Partial suspension over V-notch for fence.

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 1118

PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-65/66

1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12500



### LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305 H

EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE Rx SYNOPSIS Cleared unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 65 (Fair). Try to maintain integrity of ravine along south boundary, retain as an island of wet timber for wildlife. Predominant plant series are mountain hemlock and western hemlock. If possible, retain 2 snags per acre for diversity. *Philip R. Zabin 2/12/91*

TIMBER & LOGGING SYSTEMS DESIGNED FOR UTILITY LINE SKYLINE CANOE SYSTEMS. SPLIT YARD V-NOTCH, LACK OF ADEQUATE GUY ANCHORS AT LANDINGS; MAY, USED EQUIPMENT OR EQUIPMENT ANCHORS. DIRECTIONALLY FEEL V-NOTCH. name: *Jeffrey J. Kelly* Split yard V-notches. date: 2-6-91

ROADS & ACCESS RESOURCE CONCERNS: UNIT IS ACCESSED BY TWO TEMPORARY ROADS. DO NOT WANT TO CROSS OPEN V-NOTCH ON WEST PORTION OF UNIT. USE NATURAL LANDINGS TO CROSS ROAD CUTS FROM VIEWS IN CHATHAM STREET. name: *Steve [unclear]* date: 2/11/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: No fish concerns UFS 9/7/90 Split yard single V-notch in west portion of unit. Also maintain partial log suspension landing over numerous small V-notch channels in east portion of this unit. name: *Steve [unclear]* date: 9/20/90

SOILS: RESOURCE CONCERNS: Split yard in V-notch in eastern 1/2 of unit

name: *R. Haver* date: 9/14/90  
WILDLIFE: RESOURCE CONCERNS: Loss of low, moderate and high value deer winter range. With unit 423, good lay out of cut up the slope.

name: *Michelle McKeen* date: 9/15/90  
RECREATION & VISUAL: RESOURCE CONCERNS:

Potential tree place. Change to LOS Road allows western side. The unit is to be worked adjacent to Catherine B. from the east. name: *David* date: 9/15/90

CULTURAL: RESOURCE CONCERNS:

name: date:  
Reviewed By: *note concern for adequate guy anchors at landings* date:

title: *James S. Burnand Bengard* date: 2/15/91  
Interdisciplinary Team Leader



## UNIT DESIGN CARD

UNIT # 423

ACRES 6.5

STATEMENT OF INTENT BY IDT: Split yard V-notches in western portion and eastern portions of unit. Do not log ravine in north west portion of unit (along north boundary), leave this for wildlife as an island of timber. Keep southwest boundary away from stream channels, need fish and hydrology review at time of layout to stay 100' away. Unit in primitive area, logging in this area would change that experience.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1625  
 PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-65/64  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 L LANDING  
 305 UNIT BOUNDARY, NUMBER,  
 H + LOGGING METHOD  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 77 (Fair). Maintain integrity of ravine along north boundary, retain as intact island of timber for wildlife. Predominant plant species is western hemlock. Predominant plant associations are western hemlock/sitka spruce and western hemlock/sitka spruce. Retain 2 stages of succession for diversity. Retain 2 stages of succession.

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR DIRECTIONAL CABLE SYSTEMS.

SPLIT YARD V-NOTCHES. DIRECTIONALLY CABLE V-NOTCHES, SPLIT YARD.

These notches

(Bygones)

name:

date: 2/6/91

## ROADS &amp; ACCESS

## RESOURCE CONCERNS: UNIT ACCESS BY ROAD

7703. A TEMPORARY SPUR WILL BE NEEDED TO ACCESS

THE SOUTHEAST LANDING.

name:

date: 2/11/91

## FISHERIES &amp;

## HYDROLOGY

## RESOURCE CONCERNS:

Class I or 2 stream in SE portion of unit.

Need fish bio. + hydrologist on the ground during layout of unit. UGS 9/7/90. Split yard class III V-notch channel in west portion and class II stream segment in

name:

date: 9/20/90

## SOILS:

## RESOURCE CONCERNS:

Split yard in V-notch in

eastern 1/3 of unit

name: R. H. H. H.

date: 9/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high value deer

winter range. With unit 423, gear layout of cut up the slope road for

then access

name: M. H. H. H.

date: 9/18/90

## RECREATION &amp;

## VISUAL:

## RESOURCE CONCERNS:

Potential Rec. Place. Low quality well in riparian to bottom of

island from the eastern watershed. Changes to the riparian

name: M. H. H. H.

date: 9/28/90

## CULTURAL:

## RESOURCE CONCERNS:

M. H. H. H.

name:

date:

## Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05

John S. Burns Bugarski



## UNIT DESIGN CARD

UNIT # 424 ACRES 42

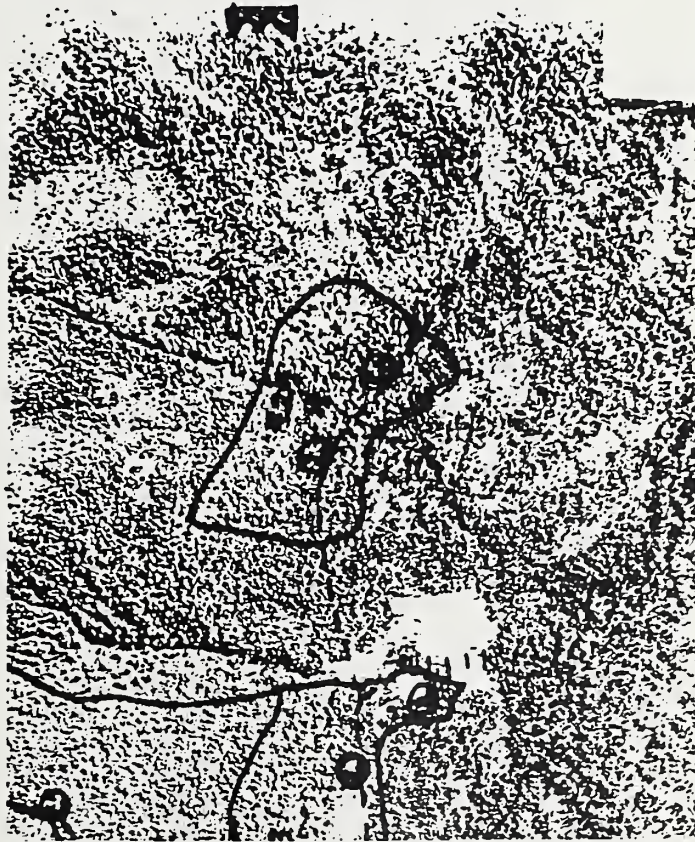
STATEMENT OF INTENT BY IDT: Split yard V-north in central portion of unit. Unit in primitive area, logging in this area would change that experience. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1050PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-6564

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 @ LANDING

UNIT BOUNDARY, NUMBER,  
305  
 H + LOGGING METHOD

EXISTING ROAD  
 ---  
 PLANNED ROAD

SILVICULTURE Clear-cut unit followed by natural regeneration.  
 RX SYNOPSIS Site productivity ranges from low to moderate with an average site index of 78 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/skunk cabbage. If possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

SYSTEMS DESIGNED FOR DOMESTIC HIGH-LEVEL CARE SYSTEMS. SITE YARD V-NORTH. DIRECTIONALITY FELL V-NORTH.

name: Randy Lilly

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7703. HYDROLOGY TO BE MODIFIED WITH ROAD LAYOUT IN CLASS III STREAM.

name: Randy Lilly

FISHERIES & HYDROLOGY RESOURCE CONCERNS:

Split yard class III stream channel near center of unit.

name: Steve Pantone

SOILS: RESOURCE CONCERNS: No soils concerns.

date: 9/20/90name: R. Murcher

WILDLIFE: RESOURCE CONCERNS: Lots of high value deer winter range.

date: 9/14/90name: Michael Murcher

RECREATION & VISUAL: RESOURCE CONCERNS:

date: 9/18/90

Potential Rec Place. Then valley is the only access to Rattlesnake Island from the Eastward stream. Changes to Rattlesnake Island name: Unsubstantiated.

date: 7/15/90

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed By:

James S. Beard Bengtson  
 Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 425 ACRES 44

STATEMENT OF INTENT BY IDT: One end log suspension needed to minimize disturbance to soils. Keep buckling below cliffs and extreme hazard soils. Unit in primitive area, logging in this area would change that experience. Do not extend boundary to the north, maintain wildlife travel corridor between 425 and 426.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 1100  
 PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-63-64  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:10000



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleant unit followed by natural regeneration. Site productivity is high with an average site index of 94 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant series is western hemlock. Predominant plant species are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 3 rings per acre for diversity. *Relevant R/S page 2/11/91*

## TIMBER &amp; LOGGING SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR DOWNHILL SKIING. ONE - END LOG SUSPENSION REQUIRED. Lower TRILUMS could be a problem in places due to adjacent muskegs.

name: *Gregory, G.* date: 2-6-91

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

UNIT ACCESED BY ROAD 7704. TWO TEMPORARY SPIKES WILL BE ADDED TO REPAIR THE LANDING.

name: *Gregory, G.* date: 2/11/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns UG 9/7/90  
 No water quality concerns S. Panton 9/20/90

name: \_\_\_\_\_ date: \_\_\_\_\_

## SOILS:

## RESOURCE CONCERNS:

No soils concerns - hazardous soils have been dropped out of unit

name: *R. Huelken* date: 9/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

loss of lowland moose due to winter range. Consider left between units 425 and 426.

name: *Michael Pfeiffer* date: 9/18/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Potential for fire. The unit is currently access to the road from the eastern shore. Change to 20% hardwoods in unit.

name: \_\_\_\_\_ date: \_\_\_\_\_

## CULTURAL:

## RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

## Reviewed By:

Note. Concern for lower tier claims adjacent to muskegs. Unit size slope may change a little during layout.

title: \_\_\_\_\_ date: 2/15/91

Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 426 ACRES 50

STATEMENT OF INTENT BY IDT: Numerous V-notches in unit require split yarding. One end log suspension needed to minimize soil disturbance. Unit in primitive area, logging in this area would change that experience. Do not extend boundary to the west, maintain wildlife travel corridor between 425 and 426.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 1250

PHOTO INFO: YR 1984 FLT LN 48 STEREO PR 184-63/64  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock, mountain hemlock and mixed conifer. Western and mountain hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska-cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 87 (fair). It possibly retain 2 sides per acre for diversity. Revised R. Sabers 2/12/91

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

DESIGNED FOR DURATION SUCCESSION CARRIE SYSTEMS: ONE END LOG SUSPENSION TO MINIMIZE SOILS DISTURBANCE. SPLIT YARD V-NOTCHES. DUE TO NUMEROUS V-NOTCHES, WHEN REQUIRED MORE LANDINGS. Yarding fully  
 name: James S. Burns date: 2-6-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 1700 AND A TEMPORARY ROAD OFF OF IT. MULTIPLE STREAM CROSSING SHOULD HAVE HYDROLOGY NOT DURING ROAD CONSTRUCTION.  
 name: J. Burns date: 2/11/91

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns UGS 9/7/90  
 See soil's recommendations below. Protect class III V-notches.

name: Shirley Pantonedate: 9/20/90

## SOILS:

## RESOURCE CONCERNS:

Recommend directional felling away from V notches and split yarding.

name: J.S. Hunscherdate: 5/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of low and mid canopy value deer winter range. With Unit 434, cut will extend over a mile across the slope, wildlife movement could be impacted.

name: Shirley Pantonedate: 9/15/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Potential for Skidoo. Skidoo riding as the only access to the north from the east is undesirable.

name: Shirley Pantonedate: 9/22/90

## CULTURAL:

## RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

## name:

date: \_\_\_\_\_

## Reviewed By:

date: \_\_\_\_\_

James S. Burns  
 Interdisciplinary Team Leader

date: 2/15/91

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## UNIT DESIGN CARD

 Alternatives 2,4  
 UNIT # 427

 Total  
 ACRES 88

STATEMENT OF INTENT BY IDT: Partial cut prescribed to reduce visual effects. Split yard V-notch in center of unit, or better yet, don't yard near its keep west boundary out of sensitive soils and numerous V-notches.

## UNIT DESIGN (PLANNED)

 LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 221

 PHOTO INFO: YR 1984 FLT LN 49B STEREO PR 184-118  
 1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

Unit Boundary	Existing Spec Rd.
Landing	Planned Road
Split Line	Temporary spur
Full Suspension	Road closure
Partial Suspension	(after haul)
Stream	Streamside zone

SILVICULTURE  
 RX SYNOPSIS  
 Partial cut unit. Cut approximately 20% of the acreage with group selection. by harvesting skyline corridors. Try to angle these corridors to reduce visual impacts. Unit adjacent to old harvest unit. Site productivity ranges from moderate to high with an average site index of 95 (F-W), predominant plant species is western hemlock.

TIMBER & LOGGING  
 SYSTEMS  
 Resource concerns: Unit designed for uphill yarding with a live skyline/flyer system. Try to angle corridors to reduce visual impacts. Tailhells may be a problem, get closer to old harvest unit. If yarding done near V-notch, directional fall away from and split yard these. They be an opportunity name: Redland & Zabriskie to use mobile yarder date: 2/14/91

 ROADS & ACCESS  
 RESOURCE CONCERNS:

name:

date:

 FISHERIES &  
 HYDROLOGY

RESOURCE CONCERNS:

name:

date:

 SOILS:  
 to avoid V-notches and the hazardous soils in the western part of unit. Different split yard at V notches recommended partial suspension over hazardous soils name: Redland & Zabriskie date: 2/14/91

RESOURCE CONCERNS: Recommended designing cut to avoid V-notches and the hazardous soils in the western part of unit. Different split yard at V notches recommended partial suspension over hazardous soils name: Redland &amp; Zabriskie date: 2/14/91

WILDLIFE:

RESOURCE CONCERNS: Loss of clear winter range. Partial cut would make snag retention unnecessary.

name: M.J. Weber

date: 2/5/91

 RECREATION &  
 VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By: Note concerns for tailhells along former clear cut. Unit size and shape may change during layout to locate good tailhells for partial cuts.

 title: James S. Burnand Bueyanski  
 Interdisciplinary Team Leader

date: 2/15/91

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UNIT #	DATE	DESCRIPTION	AMOUNT	CHECK #	DEPOSIT	BALANCE
427						

ACRES

88

STATEMENT OF INTENT BY IDT: Due to revised road access unit redesign Split yard U-notch in central portion of unit. Do not extend west boundary into area of sensitive soils and numerous U-notches. Visuals around vegetation have concern over cumulative effects of harvesting 427, 412B, 424 and existing units given VGD of partial retention, which will be tracked in EIS.

## UNIT DESIGN (PLANNED)

LOG SYSTEM	LS	EST VOLUME/AC	13	TOT VOLUME	1194
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PHOTO INFO: YR 1984 FLT LN 49B STEREO PR 184-118

1/4 QUAD ID:

## PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

## CLASS I STREAM

## CLASS II STREAM

### CLASS III STREAM

## BUFFER ZONE

## LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD

## PLANNED ROAD

Reviewed By:

Reviewed By: Note concerns for thresholds along power  
clearcut. Unit size/shape too high probability of change  
to locate thresholds

**title:**

*James S. Burns* *Burgoske*  
Interdisciplinary Team Leader

date: 2/15/91

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UNIT # 428 ACRES 35

STATEMENT OF INTENT BY IDT: Due to revised road access, unit redesigned. Do not extend south boundary into area of sensitive soils and numerous v-notches. This leave area also provides wildlife travel corridor. Visuals and recreation have been over cumulative effects of harvesting 427, 428, 429 and existing units given V&O of partial retention.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 455  
 PHOTO INFO: YR 1984 FLT LN 49B STEREO PR 184-118  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12,000



LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
 H  
 UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS  
 Clearcut unit followed by natural regeneration. Site productivity is high with an average site index of 41 (Fair). Consider unit for precommercial thinning in 20-25 years. Unit is adjacent to past harvest unit. Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. If possible retain 2 strays per acre for diversity. *Robert R. Ziegler 2/24/91*

## TIMBER &amp; LOGGING

SYSTEMS  
 DESIGNED FOR UPHILL LIVE SKYLING  
 CABE SYSTEMS  
 Tailhalls may be a problem, adjacent to past harvest unit. Possible blind leads in northern portion of unit. *(Remy) 1/16/91*

## ROADS &amp; ACCESS

name: *7735*  
 RESOURCE CONCERNS: UNIT IS ACCESSSED BY ROAD

## name:

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

*Large Class III v-notches along NE portion of unit. Avoid disturbance to unstable side slopes.*  
 date: *2/14/91*

## name:

## SOILS:

## RESOURCE CONCERNS:

No. Soils concerns - hazardous even removed (Norm Unit)

## name:

## WILDLIFE:

## RESOURCE CONCERNS:

*Loss of moderate deer winter range. Boundary change leaves a travel corridor between unit 428 and 427.*  
 date: *1/14/90*

## name:

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

*Denotation has structural concerns w/ this unit. Changes to 2034 roadless management.*  
 date: *9/14/90*

## name:

## CULTURAL:

## RESOURCE CONCERNS:

*Changes to 2034 roadless management.*  
 date: *9/14/90*

## name:

## CULTURAL:

## RESOURCE CONCERNS:

*Reviewed By: Note concerns for tailhold problems. Unit size and shape may change during layout due to potential power line alignment problems.*

## title:

*James S. Burns Baygardi*

Interdisciplinary Team Leader

date: *2/15/91*

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## UNIT DESIGN CARD

UNIT # 429 ACRES 25

STATEMENT OF INTENT BY IDT: Due to revised road access, unit redesignated. Visuals and vegetation have concerns over cumulative effects of harvesting 427, 428, 429 and existing units given VCO of partial retention. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 13 TOT VOLUME 325  
 PHOTO INFO: YR 1984 FLT LN 49B STEREO PR 184-118  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12000



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
 RX SYNOPSIS  
 Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 76 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blackberry/shield fern and western hemlock/blueberry. If possible, retain 2 snags per acre for diversity. Redland R. Zaleski 2/12/91

TIMBER & LOGGING  
 SYSTEMS

RESOURCE CONCERNS:

DESIGNED FOR UTILITY LIVE SKYLINES/FILTER  
 CARCE SYSTEMS. Additional landing may be needed to yard western portion of unit.

name: Donny Kelly

date: 2-7-91

ROADS & ACCESS  
 RESOURCE CONCERNS: UNIT IS ACCESSED BY ROAD  
 7735. WEST LANDING WILL NEED SHORT TEMPORARY  
 SAW.

name: A. Lantz

date: 2/1/91

FISHERIES &  
 HYDROLOGY  
 RESOURCE CONCERNS:  
 No fish concerns VGS 9/20/90

No hydrology concerns.

name: Steve P. Pante

date: 7/20/90

SOILS:  
 RESOURCE CONCERNS:

No soils concerns

name: R. Hunsicker

date: 9/14/90

WILDLIFE:  
 RESOURCE CONCERNS: Loss of moderate owl high  
 within deer winter range.

name: Mike P. Pante

date: 9/18/90

RECREATION &  
 VISUAL:  
 RESOURCE CONCERNS:

See handwritten concerns of this unit. Manganese Resource Problem  
 unit: 427, 428, 429

name: Donny Kelly

date: 9/28/90

CULTURAL:  
 RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

Jon S. Burns Bayanashi  
 Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

## STATEMENT OF INTENT BY IDT

Keep west boundary out of extreme hazard soils. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 350

PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-119/118  
1/4 QUAD ID:

## PLANNED (ORTHO PHOTO)

SCALE: 1" = 1000'



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

(305 H)

EXISTING ROAD  
--- PLANNED ROAD

UNIT # 431 ACRES 14

## SILVICULTURE

## Rx SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 76 (Fair). Predominant plant species is western hemlock. Predominant plant associates are western hemlock/blueberry and western hemlock/blueberry/skunk cabbage. If possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR DOWNHILL HIGHLEAD CABLE SYSTEMS. Tailholds and midlines may be a problem due to adjacent muskegs. 2-7-91

name: Ray Lilly

## ROADS &amp; ACCESS

RESOURCE CONCERNS: ROAD LOCATED ON EXTREME HAZARD SOILS. MAY WANT TO LOCATE LOWER AND TEMPERATE TO LANDING. USE OVERSIZE PILES IN UNIT WITHOUT PASSAGE IS NEEDED.

name: Ray Lilly

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Class 2 stream and riparian area

within unit. Vgs 9/7/90. Unit boundary was moved back from stream along northern boundary. No other water quality concerns.

name: Steve P. Parker

## SOILS: RESOURCE CONCERNS:

Adjustments made. No soils concerns

name: P. Parker

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of food and moderate value deer-winter range. Travel corridors left between adjacent units.

name: Steve P. Parker

## RECREATION &amp; VISUAL: RESOURCE CONCERNS:

Removal has visual concerns w/ this unit. Changes to LOS v. boundary indicated.

name: Steve P. Parker

## CULTURAL: RESOURCE CONCERNS:

name: Steve P. Parker

name: Steve P. Parker

## Reviewed By:

date: 9/14/90

title: Interdisciplinary Team Leader

date: 4/15/91

GMA-1900-05



## UNIT DESIGN CARD

Alternatives 2, 4  
UNIT # 432  
Total ACRES 75

Total  
ACRES

165



## UNIT DESIGN CARD

ACRES 75

UNIT # 432

75

STATEMENT OF INTENT BY IDT: Unit reduced in size, portion of this unit and 436 were put into a new unit, 436, to allow more flexibility in alternative formulations. Keep south boundary at slope break of Class II stream.

LOG SYSTEM	<u>LS</u>	UNIT DESIGN (PLANNED)	
		EST VOLUME/AC	TOT VOLUME
		<u>25</u>	<u>1875</u>

PHOTO INFO: YR 1984 FLT LN 498 STEREO PR 184-120/119  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



### LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 ( ) LANDING  
 --- EXISTING ROAD  
 --- PLANNED ROAD

**SILVICULTURE**  
**Rx SYNOPSIS**

SILVICULTURE Rx SYNOPSIS	clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 75 (Fair). Predominant plant species are western hemlock and mountain hemlock. Predominant plant associations are western hemlock/blueberry and mountain hemlock/blueberry. LF possible to retain 2 snags per acre for diversity.	P. 23, 1 R 7 Forests 2112

## **TIMBER & LOGGING SYSTEMS**

TIMBER & LOGGING SYSTEMS	STRIVE TO FULLY SUBSIDIZE OVER V-NATURAL (CLASS III) IN SOUTHEAST CORNER OF UNIT. FEWER TREES name: Randy Kelly may be a problem in places due to date: 2-7-81
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## ROADS & ACCESS

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7736. A SHORT TEMP ROAD IS NEEDED TO GET TO MIDDLE LANDING, WILL NEEDED ROAD TO ACCESS FUTURE VOLUME FIRST CURRENT name: J. [signature] date: 2/11/91

FISHERIES &  
HYDROLOGY

FISHERIES & HYDROLOGY	RESOURCE CONCERNS:
Put unit boundary along slope break UG 9/7/40	Class 1 or 2 of same in south part of unit
Ok with boundary above Class II channel side type I.	

name:

STIOS:

No soils concerns

name: R. H. H. H. H.

date: 2/12/90

**WILDLIFE:**

... ..

name: M.J. Weber  
date: 07/13/02

name: M. J. Weber

RECREATION & RESOURCE CONCERNS:

**VISUAL:**

Mr. General comments of this unit. Changes to 105 m  
Kavalerio monumento.

**name:**

CULTURAL:	RESOURCE CONCERNS:
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**name:**

Reviewed By:

date:

**title:**

*Janis S. Burns Byars*  
Interdisciplinary Team Leader

date: 2/5/91

**CMA-1900-05**



## UNIT DESIGN CARD

UNIT # 433

ACRES 44

STATEMENT OF INTENT BY IDT: No service concerns noted by IDT  
 re:um concerns for loss of high value soon winter range  
 and change in ROS will be tracked in ES, since these  
 concerns could not be satisfied through redesign of  
 unit.

UNIT DESIGN (PLANNED)		
LOG SYSTEM	EST VOLUME/AC	TOT VOLUME
H	13	572

PHOTO INFO: YR 19 84 FLT LN 49 STEREO PR 184-1291  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)	SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

**SILVICULTURE**  
**Rx. SYNOPSIS**

Rx. SYNOPSIS hemlock and mixed conifer. western hemlock areas naturally regenerate. Consider planting mixed conifer areas to alaska-cedar to maintain current species composition. Site productivity varies from low to moderate with an average site index of 66 ft. If possible, retain 2 spruce per acre for future regeneration. R 3/20/79

TIMBER & LOGGING SYSTEMS	RESOURCE CONCERNS: DESIGNED FOR MINOR HIGHWAY CABLE SYSTEMS. Directionally fall V-notch in unit and split yard it.
--------------------------	--

name: Rory Kelly date: 3-7-91

ROADS & ACCESS | RESOURCE CONCERNS: LMT ACCESSED BY ROAD  
1703. NO CONCERNS

name: A. Carter date: 2/14/91

FISHERIES & HYDROLOGY	RESOURCE CONCERNS:
	<i>no Hydrology or fish concerns.</i>

Skuf Martina

name:	date: 9-13-90
cc's:	REQUIRE CONCERN

SOILS: \_\_\_\_\_ RESOURCE CONCERNS:  
No soils concerns

name: R. H. McGee date: 7/14/90  
 UNIT IFF. RESOURCE CONCNS. / see next page

**WIDEFELT:** \_\_\_\_\_

name: M. Weber date: 5/13/03

**VISUAL:**

name: Dr. A. Eastman short. changed to KCS & New Orleans cement works.  
date: 2/13/34 1934  
to: Atlanta his head. How likely is the my accus to California 13

CULTURAL:	RESOURCE CONCERNS:	9/22/90
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name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By:

name: James S. Band Bugarske date: 2/15/71  
 title: Interdisciplinary Team Leader

CMA-1900-05



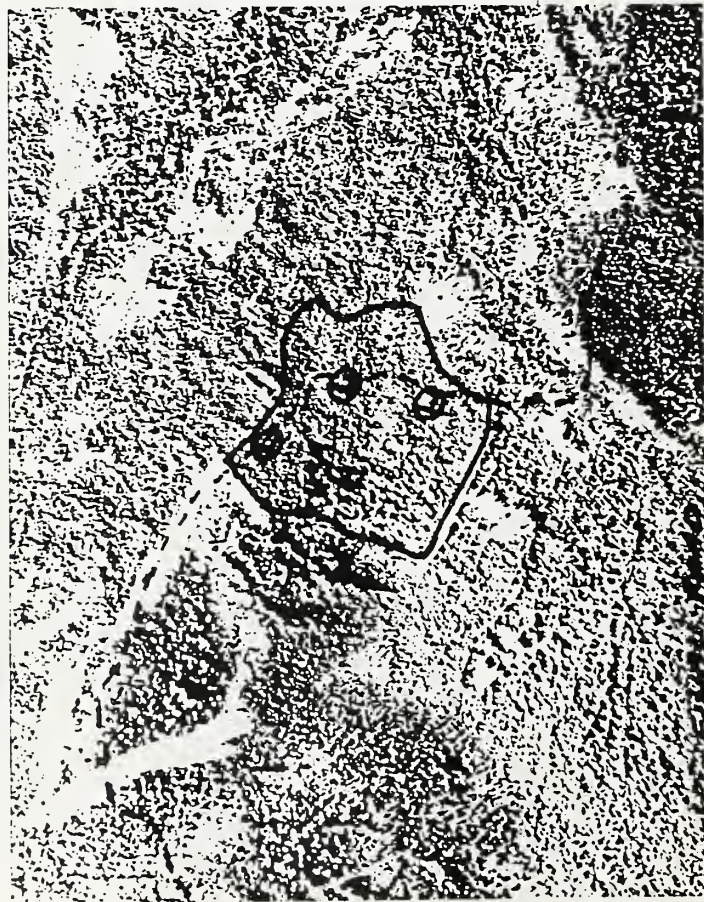
UNIT # 434 ACRES 52

STATEMENT OF INTENT BY IDI: Split yard 2 V-notches in central portion of unit and 1 V-notch in northern portion of unit. Backline in central portion of unit dropped below area of numerous V-notches. Unit in primitive area, logging in this area would change that experience. Concern for recreation could not be satisfied through unit design.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1300  
 PHOTO INFO: YR 1984 FLT LN 4913 STEREO PR 184-124  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- ⊙ LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
---  
PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 85 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 swags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR DUNSMuir HIGHLAND CARLE SYSTEMS. SPLIT YARD AND DIRECTIONALLY FEEL V-NOTCHES. Directionally full timber away from miskeys around unit.

name: Ben Lillydate: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT RECESSED BY ROAD 1980. THE NORTHWEST LANDING MAY BE RECONSTRUCTED WITH A ROCK PIT.

name: Steve Pasterdate: 2/10/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns 098 9/7/90  
Follow with recommendation to maintain watch channel stability.

name: Steve Pasterdate: 9/20/90

## SOILS:

## RESOURCE CONCERNS:

Split yard on V-notches to protect soil productivity; directionally full trees away from V-notches.

name: R. Hatcherdate: 7/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high value deer-winter range. Unit extends 300' across the slope and if Unit 426 cut also, over a mile will be cut. Wildlife movement will be impaired.

name: Steve Pasterdate: 9/18/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

No recreational concerns w/ this unit. Potential for scenic value. Unit extends 300' across the slope and if Unit 426 cut also, over a mile will be cut. Wildlife movement will be impaired.

name: Steve Pasterdate: 9/18/90

## CULTURAL:

## RESOURCE CONCERNS:

No cultural concerns w/ this unit. Potential for scenic value. Unit extends 300' across the slope and if Unit 426 cut also, over a mile will be cut. Wildlife movement will be impaired.

name: \_\_\_\_\_

date: \_\_\_\_\_

## Reviewed By:

James S. Burns Bengawan  
 Interdisciplinary Team Leader

title: \_\_\_\_\_

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 436 ACRES 28

STATEMENT OF INTENT BY IDT: Unit cut in half and new unit created, 44% to allow more flexibility in alternative formulation. Keep east boundary at slope break to stay cut of riparian area and to provide buffer for stream channels. Unit in primitive area, harvesting in this area would change that experience.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 700PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-122

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 - - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 L LANDING

305 UNIT BOUNDARY, NUMBER,  
H + LOGGING METHODEXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS Clearcut unit followed by natural regeneration. Sire productivity is high with an average Sire index of 45 (Fert). Consider unit for precommercial thinning in 20-25 years. Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blackberry. If possible, retain 2 snags per acre for chugach redstart. 2/11/91

## TIMBER &amp; LOGGING

RESOURCE CONCERNS:

SYSTEMS DESIGNED FOR DOWNSTREAM highlead C&L systems  
 Additional landings may be needed to log unit.

name: Greg Lillydate: 2-8-91

ROADS & ACCESS RESOURCE CONCERNS: ACCESSSED BY ROAD 7705.  
 MAY NEED ADDITIONAL IMPROVEMENTS ALONG ROAD.

name: Greg Lillydate: 2/8/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

Clearcut stream with unlogged channels along eastern segment of unit boundary 9/7/90  
 Unit boundary was moved outside of riparian area to mitigate concerns with Class I channel.

name: Steve Pattersondate: 9/15/90

SOILS: RESOURCE CONCERNS:

No soils concerns - adjustments already made.

name: P. Huerfanodate: 9/14/90

## WILDLIFE:

RESOURCE CONCERNS:

Cuts of high lead clearcut winter conifer. Boundary adjusted to protect riparian habitat and allow more flexibility in alternative formulation.

name: Mark Weberdate: 9/13/90

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

Potential Rec. River, likely a dry stream to cut the river to from Eastern shore changes to 2000m elevation - winter 1993. 11/11/91

name:

CULTURAL: RESOURCE CONCERNS:

name:

name:

name:

Reviewed By:

date:

title:

James S. Burns Bayard

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 437

ACRES 28

STATEMENT OF INTENT BY IDT: Backline dropped below cliffs and McElbury soils. Keep lower boundary 100' away from Class I stream. Keep east boundary at slope break of Class III stream. Unit cut in half and new unit created, 451, to allow more flexibility in alternative formulation. Unit in primitive area, harvesting in this area would change that experience.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 700  
 PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-122  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
 RX SYNOPSIS  
 Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska-cedar to maintain current species diversity. Site productivity ranges from low to high with an average site index of 77 (Ferry). If possible, retain 2 snags per acre for diversity. Richard R. Zuberko 2/12/91

TIMBER & LOGGING  
SYSTEMSRESOURCE CONCERNS: DESIGNATED FIRE high lead  
Downside Logging.

Stream buffer. Tower fields may be a problem in places due to name: *possibly adjacent muskies.*

ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESS OFF OF ROADS  
 1700 AND 1700. MAY NEED BRIDGE NEAR EAST LANDING  
 TO THE EAST.

name: *J. Lent* date: 2/10/91FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:  
 Class I stream with remapped channel along western portion of unit boundary. Boundary pulled back to protect stream and remapped channels 9/8/91  
 maintain unit boundary above 10' notch slope 9/11/91  
 name: *Frank along eastern boundary, Class III stream.* date: 2/10/91

SOILS: RESOURCE CONCERNS:

No concerns - boundary adjustment made.

name: R. Huether date: 9/14/90

WILDLIFE: RESOURCE CONCERNS: Loss of habitat and high value clear winter range. Unit extends across the slope rather than up slope. Boundary change allows more alternative flexibility.

name: M. J. Weber date: 9/13/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

Potential for River. Valley is heavily accessible Catherine to from south side. Changes to 1054 and 1055 boundaries - no change.

name: \_\_\_\_\_ date: 10/1/90

CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By: Note concerns for tower fields along muskies. High potential unit slope on size may change during layout.

title: *James S. Burns Bayash* date: 2/15/91  
 Interdisciplinary Team Leader

CMA-1900-05



## Alternative 4

## UNIT DESIGN CARD

Total  
ACRES 88

UNIT # 438

STATEMENT OF INTENT BY IDT: Unit reduced in size, portions of this unit and 432 were put into a new unit, 450, to allow more flexibility during alternative formulation. Partial cut would reduce impacts to other resources.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 425PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-119/118

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

Unit Boundary — Existing Spec Rd. —  
 Landing (L) Planned Road —  
 Split Line ... Temporary spur —  
 Full Suspension F Road closure X  
 Partial Suspension P (after haul) —  
 Stream ~ Streamside zone ~

## SILVICULTURE

RX SYNOPSIS Partial cut unit. Cut approximately 20% of the acreage with group selection, cutting skyline conifers. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska-cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 72 (fair).

## TIMBER &amp; LOGGING

SYSTEMS RESOURCE CONCERNS: Unit designed for whole tree skyline/flyer cable systems. Backline may need to be moved to avoid blindleads.

name: Richard R. Zaborie date: 2/13/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

date:

name:

## SOILS:

RESOURCE CONCERNS: No soils concerns.

date:

name: R. Huerfano

## WILDLIFE:

RESOURCE CONCERNS: Loss of deer winter range - Partial cut would make snag retention unnecessary.

date: 2/14/91

name:

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

date: 2/15/91

name:

## CULTURAL:

RESOURCE CONCERNS:

date:

name:

## Reviewed By:

date:

title:

James S. Burned Beyerle  
 Interdisciplinary Team Leader

date: 2/15/91

GMA-1900-05



ACRES 88

UNIT # 438

STATEMENT OF INTENT BY IDT: Unit reduced in size, portions of this unit and 432 were put into a new unit, 450, to allow more flexibility during alternative formulation. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L5 EST VOLUME/AC 25 TOT VOLUME 2200  
 PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-119/118  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 L LANDING

305 UNIT BOUNDARY, NUMBER,  
 H + LOGGING METHOD

EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas with alaska-cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 72 (Fair). If possible, retain 2 snags per acre for diversity. Retain 2 snags per acre. 2/12/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR SMALL LIVE SKYLINE CABLE SYSTEMS. Buckline may need to be moved up to avoid blindleads.

name: John Lillydate: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7736. A TEMP SPUR WILL BE NEEDED TO REACH SOUTH LANDING. USE NATURAL LANDFORMS TO SCREEN ROADS FROM VIEWS IN CHATTAUGH STRAIT.

name: \_\_\_\_\_

date: 2/11/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns UGS 9/7/90  
 No water quality concerns

name: \_\_\_\_\_

date: 9/13/90

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

name: R. Haver-Vendate: 9/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of high value deer winter range. Boundary adjusted to allow more flexibility in alternative clearing plan. Unit 438, 439, 440 would result in cut loss of deer range. name: Marked by line

name: \_\_\_\_\_

date: 9/14/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Recreation has no impact on this unit. Changes to CMA 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 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2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 224



## UNIT DESIGN CARD

UNIT # 439 ACRES 68

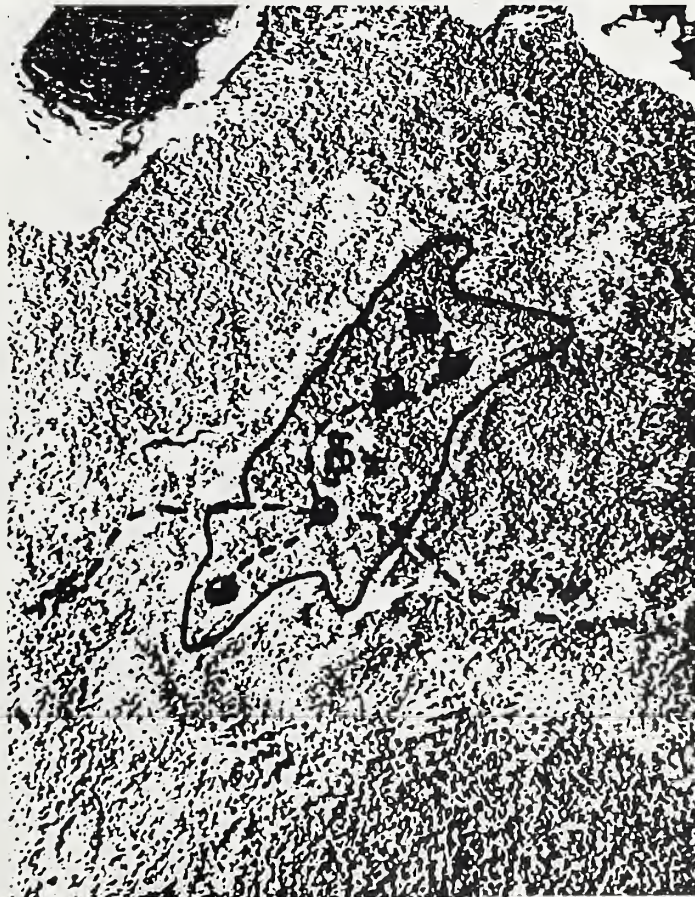
STATEMENT OF INTENT BY IDT: Unit in close proximity to known cultural sites. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 384PHOTO INFO: YR 19 FLT LN 50 STEREO PR 284-2212

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305  
HEXISTING ROAD  
--- PLANNED ROADSILVICULTURE  
Rx SYNOPSIS

Cleaver unit. Predominant plant series is mixed conifer. Consider planting unit with alaska-cedar to maintain current species composition. Site productivity is low. Try to maintain integrity of small muskegs within unit. If possible, retain 2 snags per acre for diversity.

Michael R. Zaborie 2/13/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

Highland unit, portions may be suitable for shaped yarding. Yard corridors from back to front and yard over down logs to minimize disturbance to soils. Use a graveling to achieve one foot log suspension over wet soils. Tailholds and fire logging may be a problem in place.

ROADS & ACCESS RESOURCE CONCERNS: ACCESSED BY AN EXHIBITION OF ROAD 1940. TWO TEMP ROADS WILL BE NEEDED TO REACH ALL LANDINGS.

name:

J. L. L.

date: 2/7/91

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns 10/8-11/20/90

No water quality concerns.

name:

Steve Paine

date: 7/13/90

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

name:

R. Huchner

date: 9/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

loss of high value deer winter range. Unit is well back from the beach fringe.

name:

Michael Nichols

date: 9/18/90

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

See site 1300 ft from E. boundary. Unit changes to 1003r and 1003r in unit.

name:

Michael Nichols

date: 10/1/90

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

Reviewed By: Mike concerns for brown tie downs. Landings and billy may need adjustment to fit in ground. Unit slope and shape likely to change during layout.

James S. Burns Baymaker

title:

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



STATEMENT OF INTENT BY IDT: Split yard U-notch in eastern portion of unit. No other resource concerns noted. Mountain 60' buffer to class I channel, north of unit.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 1183  
 PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 284-19/8  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 --- LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Cleaver unit. Predominant plant species are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to alaska-cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 79 (Fair). If possible, retain 3 groups per acre for diversity. *Jeffrey R. Galtsoff* 5/13/91

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR DOMESTIC HIGH-CAPACITY SYSTEMS. *Jeffrey R. Galtsoff* 5/13/91

## ROADS &amp; ACCESS

PROPOSED FBL AND SPLIT YARD & NOTCH. Toward tie downs may be a problem due to adjacent muskegs. *Jeffrey R. Galtsoff* 5/13/91

## name:

*Jeffrey R. Galtsoff*

## date:

2-7-91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: EAST 1/2 OF UNIT ACCESSED BY ROAD 7700. WEST 1/2 ACCESSED BY A TEMPORARY ROAD. ROAD PASS ON NORTH SIDE OF UNIT OUT OF STREAM BUFFER. *Jeffrey R. Galtsoff* 5/13/91

## name:

*Jeffrey R. Galtsoff*

## date:

2-7-91

## SOILS:

RESOURCE CONCERNS: No fish concerns 088 7/20/90. No water quality concerns; it achieves 100' buffer to class I channel, north of unit. *Jeffrey R. Galtsoff* 5/13/91

## name:

*Jeffrey R. Galtsoff*

## date:

2-7-91

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate value deer winter range. Unit could provide corridor thru higher volume class timber to the east side of Catherine Island. *Jeffrey R. Galtsoff* 5/13/91

## name:

*Jeffrey R. Galtsoff*

## date:

2-7-91

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS: Recreation, domestic concerns with unit. Potential for viewing to only access to Catherine Is. from east side. *Jeffrey R. Galtsoff* 5/13/91

## name:

*Jeffrey R. Galtsoff*

## date:

2-7-91

## name:

*Jeffrey R. Galtsoff*

## date:

2-7-91

## Reviewed By:

Note concern for adequate tie downs for towers. High probability unit size and slope may change during field layout. *James S. Bunn* 5/13/91

## title:

*James S. Bunn*

## date:

2-15/91

## Interdisciplinary Team Leader

*James S. Bunn*

## date:

2-15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 441 ACRES 88

STATEMENT OF INTENT BY IDT: Split yard V-north in southern portion of unit. Keep south boundary at slope break of V-north along southern boundary. Directionally fall timber away from V-north along northeast boundary. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 1144PHOTO INFO: YR 1984 FLT IN 50 STEREO PR 284-17/18/

1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:12,500

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 .... CLASS III STREAM  
 ||||| BUFFER ZONE  
 ① LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
----- PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Clearest unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 87 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/light fern. If possible, retain 2 snags per acre for diversity. Richard R. Zebrowski 2/13/91

TIMBER & LOGGING  
SYSTEMS

DESIGNED FOR DIRECTIONAL HIGH-HEAD CABLE SYSTEMS. SPLIT YARD V-NORTH IN SOUTHERN PORTION. DIRECTIONALLY FELL AWAY FROM V-NORTH AND STREAM IN NE CORNER OF UNIT.

name: Richard R. Zebrowski Tailholds may be a problem in plans date: 2-7-91ROADS & ACCESS RESOURCE CONCERNS: ACCESSED BY ROAD 9708. KEEPS ROAD OUT OF STREAM BUFFER ALONG NE PULVIN OF UNIT. STREAM CROSSING IS 400 FEET FROM UNIT MAP NEED BRIDGE. HYDRO VOLUME ACCESSIBLE date: 2-7-91 name: Richard R. ZebrowskiFISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: No fish concerns. V-north changes. Large V-north still within this unit will be split garded to protect channel side slopes. Stream crossing should have on-site name: Stream date: 9/15/90

SOILS: RESOURCE CONCERNS: Recommend directionally felling trees away from stream along NE boundary. Move southern boundary to other side of V-north at that location and split yard on V-north just to the north of the southern boundary. name: R. Zebrowski date: 9/14/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer winter range.

name: Richard R. Zebrowski

date: 9/18/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

Resource concerns for tailholds in places. High probability unit edge/slope may change during layout in the field. Hydrologist request full revision of stream name: Richard R. Zebrowski date: 2/15/91

CULTURAL: RESOURCE CONCERNS: name: Richard R. Zebrowski date: 2/15/91

## name:

date:

Reviewed By: James S. Burn concerns for tailholds in places. High probability unit edge/slope may change during layout in the field. Hydrologist request full revision of stream name: James S. Burn date: 2/15/91

title: Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 442

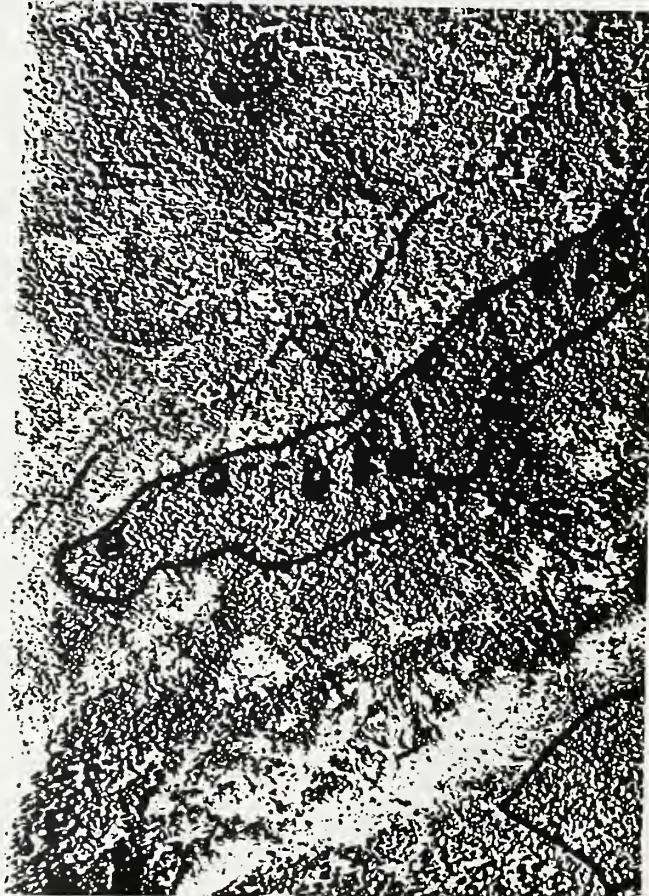
ACRES 56

STATEMENT OF INTENT BY IDT: South boundary pulled back to create new unit for wildlife corridor (cont 446). Split yard V-notch in southern portion of unit. Backline on north boundary dropped below cliffs. Visuals and vegetation has concern over cumulative effect of harvesting units 441, 442, 443, 444, 445, 446. Split yarding V-notch will minimize soil disturbance and protect water quality.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 728PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 284-16

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD  
305  
H

EXISTING ROAD  
PLANNED ROAD  
---

SILVICULTURE Clearcut unit. Predominant plant species are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to Alaska cedar to retain unit species composition. Site productivity ranges from low to high with an average site index of 50 (fair). If possible, retain 2 snags per acre for diversity. Richard K. Ziegler 2/12/91

## TIMBER &amp; LOGGING

SYSTEMS DESIGNED FOR DOWNSIDE (HIGHLAND CARE SYSTEMS) DIRECTIONARY FELL AND SPLIT YARD V-NOTCH IN SOUTHERN PORTION OF UNIT. Lower tie-downs may be a problem in northern portion of unit. name: [illegible] date: 2-8-91

ROADS & ACCESS ROAD FROM 7709 USE OVERSIZE CURVE IN CLASS II STREAM CROSSING

name: [illegible] date: 2/14/91

## FISHERIES &amp; HYDROLOGY

name: [illegible] date: 9/7/90

Split yard V-notch in south part of unit to minimize risk to water quality.

name: Steve Paine date: 9/15/90

## SOILS:

Split yard on V-notch as noted on Design Overlay

name: R. Huerfano

WILDLIFE: name: [illegible] date: 1/17/90

value deer winter range. Boundary adjusted to allow more flexibility in alternative development.

name: M. T. Weber date: 9/13/90

## RECREATION &amp; VISUAL:

name: [illegible] date: [illegible]

CULTURAL: name: [illegible] date: [illegible]

name: [illegible] date: [illegible]

name: [illegible] date: [illegible]

name: [illegible] date: [illegible]

name: [illegible] date: [illegible]

name: [illegible] date: [illegible]

name: [illegible] date: [illegible]

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Reviewed By: note concern for adequate tailholts and lower tie-downs along north end of unit. Unit stage and slope may change a little during field layout.

title: James S. Burns Beggs date: 2/18/91

Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 443 ACRES 32

STATEMENT OF INTENT BY IDT: North boundary pulled back to create a new unit for wildlife travel corridor. Buckline dropped due to steep slopes. Split yard V-notch in southern portion of unit. Soils review needed prior to layout to determine soil stability for logging. Disposal and reclamation has concern over cumulative effect for logging units 441, 442, 443, 444, 445, 446.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 800PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 284-15

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 84 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. It is possible, retain 2 snags per acre for diversity.

Richard R. Berglund 2/12/91

## TIMBER &amp; LOGGING

## SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR DOWNHILL MEMBERS CARE SYSTEMS. Microclimate fell and split yard V-notch. Soils review needed prior to logging, logging system may change to skyline to protect name: Ecologically Sensitive Soils date: 2-8-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED OFF OF ROADS 7700 AND 7709.

## name:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: Protect clear 3 channels for down stream water quality. 098 9/2/90 Split yard V-notch date: 2/11/91

## name:

## SOILS:

RESOURCE CONCERNS: Split yard V-notch in southeast part of unit. date: 9/15/90

## name:

## WILDLIFE:

RESOURCE CONCERNS: Loss of lowland high value deer winter range. Buckline adjusted to allow more flexibility in alternative development. date: 9/13/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

## name:

## CULTURAL:

RESOURCE CONCERNS:

## name:

date:

Reviewed By: Mike Conner for sensitive soils  
and need for soils review prior to layout to determine appropriate logging systems.

## title:

James S. Bernal Berglund date: 2/18/91  
 Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 445ACRES 47

STATEMENT OF INTENT BY IDT: Split yard the two V-notches in unit. Do not extend northwest boundary, maintain wildlife travel corridor between 444 and 445. No other resource concerns noted. Stockline fencing will provide one end log suspension to minimize soil disturbance.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 1175PHOTO INFO: YR 1976 FLT LN 45B STEREO PR 176-4

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 UNIT BOUNDARY, NUMBER,  
H + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to alder-kah-cedar to maintain current species composition. Site productivity ranges from low to moderate with an average site index of 79 (fair). If possible, retain 2 swags per acre by clearing to 2nd growth.

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED 1-2L Downhill skyline yarding. One end log suspension required to minimize disturbance to sensitive soils. Directionally fell timber away from V-notches and name: Hand-drawn split yard these notches. date: 2-7-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: ACCESSED BY ROAD 7700. NO STOPS ABOVE MUSKEGES. ROCK PIT MAY BE POSSIBLE IN CONNECTION WITH NORTHERN LANDING.

## name:

date: 2/10/91FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No fish concerns Ugs 9/7/90

Split yard two V-notch channels within unit. No other water quality concerns. vsp

## name:

date: 9/13/90

## SOILS:

## RESOURCE CONCERNS:

Increase # of landings and obtain partial suspension where possible to reduce soil disturbance

## name:

date: 2/11/91

## WILDLIFE:

## RESOURCE CONCERNS:

Winter range. Boundary pulled back from unit 444 to leave a windfirm corridor

## name:

date: 9/17/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Generation des incises concerns w/ character. Changes to 2100 and 2100 incises to 2100.

## name:

date: 10/1/90

## CULTURAL:

## RESOURCE CONCERNS:

## name:

## date:

## Reviewed By:

## title:

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05

*James S. Buns Buyanski*



## UNIT DESIGN CARD

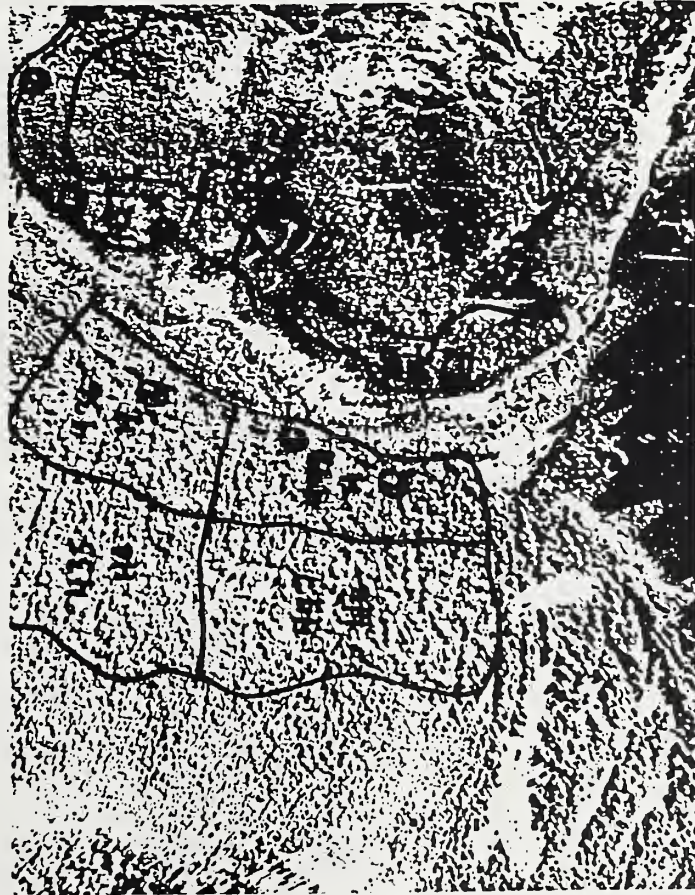
UNIT # 448 ACRES 23

STATEMENT OF INTENT BY IDT: Unit originally part of 436 but broken out to allow more flexibility in alternative formulation. Keep east boundary at slope break to stay out of riparian area and to provide buffer for stream channels. Unit in primitive area, harvesting in this area would change that experience.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 575

PHOTO INFO: YR 1984 FLT LN 498 STEREO PR 184-122/123  
1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12500



## LEGEND

--- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
--- BUFFER ZONE  
--- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305 H

EXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 91 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. If possible retain 2 snags per acre for diversity. Redwood R Zone 2/13/91

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

SYSTEMS

RESOURCES

highland

CMAC

SYSTEMS: Originally full timber away from stream buffer. Additional landings may be needed to log unit. name: *Stacy Kelly* date: 2-25-91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESS BY ROAD

7705. KEEP LANDING SIZE DOWN TO REDUCE IMPACTS TO NEARBY CLASS I STREAM

name: *Stacy Kelly* date: 2/10/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

riparian area adjacent to Class I stream to minimize water quality and fish habitat concerns. maintain 100' buffer along Class I stream

name: *Steve P. Proulx* date: 7/15/90

## SOILS:

RESOURCE CONCERNS:

Boundary moved back from riparian zone. No soils concerns.

name: *R. H. Weber* date: 9/14/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer winter range. Unit avoids riparian habitat.

name: *McJ. Weber* date: 9/13/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

Potential for piece valley is developing, potential for future development. Changeover to riparian habitat.

name: *McJ. Weber* date: 9/13/90

## CULTURAL:

RESOURCE CONCERNS:

name: *McJ. Weber* date: 9/13/90

## name:

date:

## Reviewed By:

## title:

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 449

ACRES 30

STATEMENT OF INTENT BY IDT: Unit originally part of 415 but since there is now road access along the ridge top, this unit broken out for uphill yarding by skyline system. Keep south boundary at slope of Class III stream and directionally fall timber away from it. Visuals and recreation have concern over cumulative effect of harvesting 415, 449 along with existing units given 440 of partial retention.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 390

PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-73172  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 - - - CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

(305)  
 H

EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE Clearcut unit followed by natural regeneration.  
 RX SYNOPSIS Site productivity is high with an average site index of 95 (Fair). Consider unit for precommercial thinning in 20-25 years. Unit adjacent to old harvest unit. Preliminary plant series is western hemlock. Redundant plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. It possibly remain 2. Snags for use for diversity. Richard R. Ziegler 3/12/91

## TIMBER &amp; LOGGING RESOURCE CONCERNS:

DESIGNED FOR ONE SKYLINE LOGGING.  
 DIRECTIONALLY FALL TREES AWAY FROM CLASS III STREAM. Tailholds may be a problem, adjacent to old harvest unit.

name: Ray P. Kelly old harvest unit. date: 2-6-91

ROADS & ACCESS RESOURCE CONCERNS: ACCESSED AT THE END OF ROAD 7701. MAINTAIN LOW CUT BETWEEN LAMOUNTS TO REDUCE VISUALS.

name: Ray P. Kelly date: 10/26/90

## FISHERIES &amp; HYDROLOGY RESOURCE CONCERNS:

Place south unit boundary to v-notch edge head and directionally from Class III channel. Locate unit boundary on slope break 488/490

name: Steve P. Pave date: 9/13/90

## SOILS: RESOURCE CONCERNS:

Fall trees away from the v-notch that forms the SE boundary

name: R. H. Haver date: 9/14/90

WILDLIFE: RESOURCE CONCERNS: Loss of moderate and high value deer winter range.

name: Michael J. Vrebe date: 9/15/90

## RECREATION &amp; VISUAL: RESOURCE CONCERNS:

Place as usual concerns of this unit. Change to 2054 and 2055

name: Ray P. Kelly date: 9/15/90

CULTURAL: RESOURCE CONCERNS:

name: Ray P. Kelly date: 9/15/90

Reviewed By: Note concern for locating tailholds adjacent to former clear cut. Potential unit size/slope may change during beyond.

title: Interdisciplinary Team Leader date: 2/15/91

name: Steve S. Bland date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

Total  
ACRES

UNIT # 450

75

STATEMENT OF INTENT BY IDT: Unit created from portions of 432 and 438 to allow more flexibility during alternative formulation. No other resource concerns noted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 182PHOTO INFO: YR 19 84 FLT LN 49B STEREO PR 184-119/120

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 UNIT BOUNDARY, NUMBER,  
H + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Partial cut unit. Cut approximately 20% of the units average in yarding corridors. Site productivity ranges from low to moderate with an average site index of 79 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shunk cabbage. Richard R. Zabriskie 2/12/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR UPSCALE LIVE SKYLINE CABLE

THE BOUNDARY AT THE SOUTHWEST CORNER MAY NEED TO BE MOVED IN TO AVOID BUILDINGS RESULTING IN SMALLER UNIT name: Green Lilly Additional landings may be needed to achieve additional objectives. date: 2-7-91

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

UNIT ACCESSED BY ROAD 7736. A SHORT TRAIL SPUR MAY BE ADDED TO NORTH EAST MOST LANDING. USE NATURAL LANDFORMS TO SCREEN ROAD VIEW IN CHATHAM STRAIT. date: 2/14/91

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

No water quality concerns.

name: Steve Panton date: 9-13-90

## SOILS: RESOURCE CONCERNS:

No soils concerns

name: R. Hugelberg date: 9/14/90

## WILDLIFE:

## RESOURCE CONCERNS:

Unit designed to allow flexibility in alternatives for future winter range. Unit designed to allow flexibility in alternatives for future impact to wildlife units 432, 438 & 450 would result in 6000' average site index. name: Steve Panton date: 9/14/90

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Recreation has caused concerns of this unit changes to view. name: Steve Panton date: 9/14/90

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

Janis S. Burns Buyanski  
Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



STATEMENT OF INTENT BY IDT: Unit originally part of 437 but broken out to allow more flexibility in alternative formulation. Keep west boundary 100' from Class I stream. Backline dropped below cliffs and McGilvray scuffs. Unit in primitive area, harvesting in this area would change that experience.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 550PHOTO INFO: YR 1984 FLT LN 49B STEREO PR 184-122/1/4 QUAD ID: 123

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

305  
H

EXISTING ROAD  
PLANNED ROAD

UNIT # 451ACRES 22SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 87 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity.

Richard R. Zaboro 2/13/91

TIMBER & LOGGING  
SYSTEMS

## RESOURCE CONCERNS:

DESIGNED FOR DURATION highlead CARC

## SYSTEMS

Directionally fall timber away from stream buffer along west boundary. Additional landings may be needed. date: 2-8-91

## name:

7706. OPERATING FOR ROCK PITS WITHIN UNIT.

## name:

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## UNIT DESIGN CARD

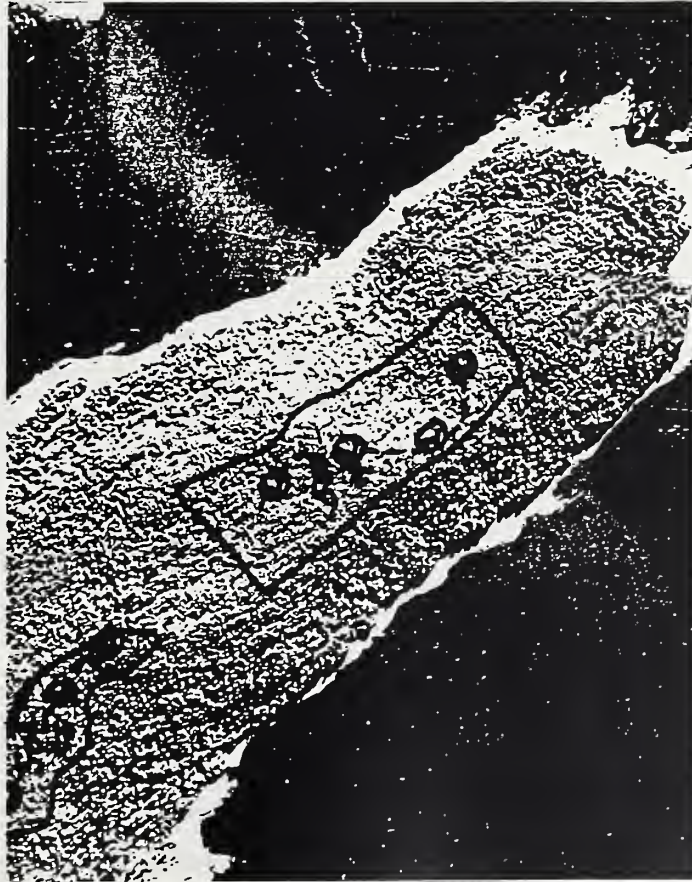
UNIT # 500 ACRES 52

STATEMENT OF INTENT BY IDT: Unit design to break across ridge. Potential for blind leads needs to be checked in field during layout. No fishing, soils or watershed concerns noted during design. Concerns for major deer/bear travel corridor could not be anticipated though unit design will display

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 676

PHOTO INFO: YR 1979 FLT IN 42 STEREO PR 176-212  
1/4 QUAD ID: 211213

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING  
UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS  
is '80 (Farr). Predominately Western Hemlock plant series. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/devils club. Retain 2 snags per acre for diversity

TIMBER & LOGGING SYSTEMS  
RESOURCE CONCERNS: Unit designed for highland yarding, both up and down hill. Additional landing may be required to log bowl in eastern portion of unit. Additional landing may also be required to log northwest corner of unit.

name: Richard R. Zabolove date: 2/4/91

ROADS & ACCESS  
RESOURCE CONCERNS: NO CONCERNS

name: J. Kellner date: 10/24/90

FISHERIES & HYDROLOGY  
RESOURCE CONCERNS:  
NO HYDROLOGIC CONCERNS  
No fish concerns VGS 8-14-90

name: D. KELLNER date: 8/14/90

SOILS:  
RESOURCE CONCERNS:  
No soils concerns

name: R. Kellner date: 9/20/90

WILDLIFE:  
RESOURCE CONCERNS: Loss of high value deer winter range and noted bear use. A major wildlife travelway follows the ridge from the beach.

name: Michael J. Weber date: 8/14/90

RECREATION & VISUAL:  
RESOURCE CONCERNS:

Changeless Roadless inventories.

name: Michael J. Weber date: 9/21/90

CULTURAL:  
RESOURCE CONCERNS:

See Research Design for Probabilty Area 400 Dunes

name: Michael J. Weber date: 8/14/90

Reviewed By: Note concern for blind leads. High probability

Unit slope and size may change some during layout

name: James S. Beard Bengtson date: 2/12/91

Interdisciplinary Team Leader

CMA-1900-05



UNIT # 503

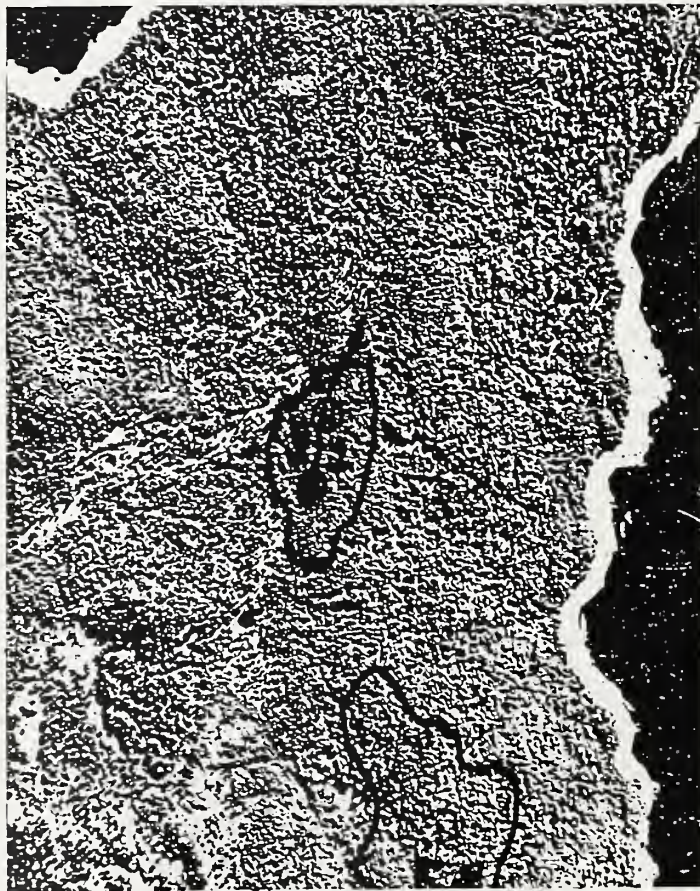
ACRES 19

## STATEMENT OF INTENT BY IDT:

AT time of unit design no resource concerns noted for soils, water, or fisheries. Will work with LA on slope of unit to minimize visual impact.

8/13/90 180

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 13 TOT VOLUME 247PHOTO INFO: YR 1976 FLT LN 41 STEREO PR 176-296  
1/4 QUAD ID: 2951297PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate. Site index ranges from 32 to 83. Predominate plant series and western hemlock and mountain hemlock. Predominate plant associations are western hemlock/blueberry and mountain hemlock/blueberry. Retain 2 snags per acre for diversity.

Richard R. Zaborge 2/14/91

## TIMBER &amp; LOGGING

## SYSTEMS

RESOURCE CONCERNS: Unit designed for uphill yarding with live skyline/Flyer system. Short spur roads will be needed to access landings.

name: Richard R. Zaborge

date: 2/14/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: A short temporary road will be needed to access the best landing locations.

name: Carl

date: 10/24/90

## FISHERIES &amp;

## HYDROLOGY

RESOURCE CONCERNS: MONITORING PROJECT PROPOSED FOR 2 SMALL STEEP WATERWAYS ON PERTAGE ARM SDE. REQUEST UPPER NORTHEAST SEGMENT OF UNIT NOT ENTER DRAINAGE BASIN AS INDICATED ON PHOTO 41-296. My first concerns 8-14-90

name: D. KELLNER

date: 8/14/90

## SOILS:

RESOURCE CONCERNS: No soil concerns

name: Michael J. Weber

date: 7/20/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate value deer winter range.

name: Michael J. Weber

date: 8/14/90

## RECREATION &amp;

## VISUAL:

RESOURCE CONCERNS: Changes to 1050 Kellner, inventory, visual concerns.

name:

date: 7/21/90

## CULTURAL:

RESOURCE CONCERNS: See Research Design for Probability Area W.D. Luando

name:

date: 8/14/90

## Reviewed By:

date: 8/14/90

## title:

date: 2/12/91

## Interdisciplinary Team Leader

GMA-1900-05



## UNIT DESIGN CARD

Alternatives 2, 4

UNIT # 504

Total  
ACRES 88

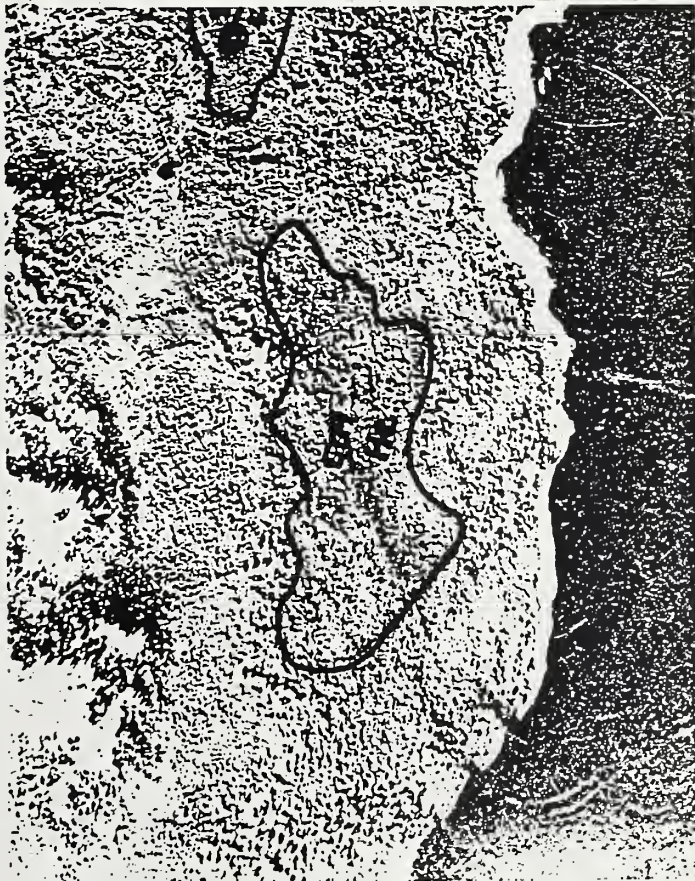
STATEMENT OF INTENT BY IDT: Unit design so SW boundary stops on break above Class III channel. Bottom boundary stays 50' from shoreline to protect beach fringe habitats. Small patch of high hazard soils will be protected with one end log suspension. Split yard away from V-notch in eastern 1/3 of unit.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 2.5 TOT VOLUME 425

PHOTO INFO: YR 1976 FLT LN 41 STEREO PR 176-296  
1/4 QUAD ID: 295/297

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

Unit Boundary Existing Spec Rd.   
Landing Planned Road   
Split Line Temporary spur   
Full Suspension Road closure   
Partial Suspension (after haul)  
Stream Streamside zone

## SILVICULTURE

Rx SYNOPSIS Partial cut unit. Cut approximately 20% of the area in small (2-5ac) group selection cuts. Cut areas should regenerate naturally. Site productivity ranges from low to moderate with an average site index of 80 (Farr). Predominant plant species is western hemlock. Predominant plant associations are western hemlock blueberry and western hemlock blueberry devils club. 2/13/91

## TIMBER &amp; LOGGING

SYSTEMS RESOURCE CONCERNS: No road access so helicopter log units. Best landing location would be the sort yard area at the Bouchon Creek LTF access. Middle Arm. If unable to fly across water, logs would have to be flown uphill to landing in unit 503. 2/13/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

date:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

name:

date:

## SOILS:

RESOURCE CONCERNS: Split yard V-notch in eastern 1/3 of unit. Recommend partial suspension over high hazard soils.

name: R. Muellerdate: 2/14/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of deer winter range. Snag retention may not be necessary.

name: M. Tuweberdate: 2/15/91

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

James S. Dunn Biegancki

Interdisciplinary Team Leader

title:

date: 2/27/91

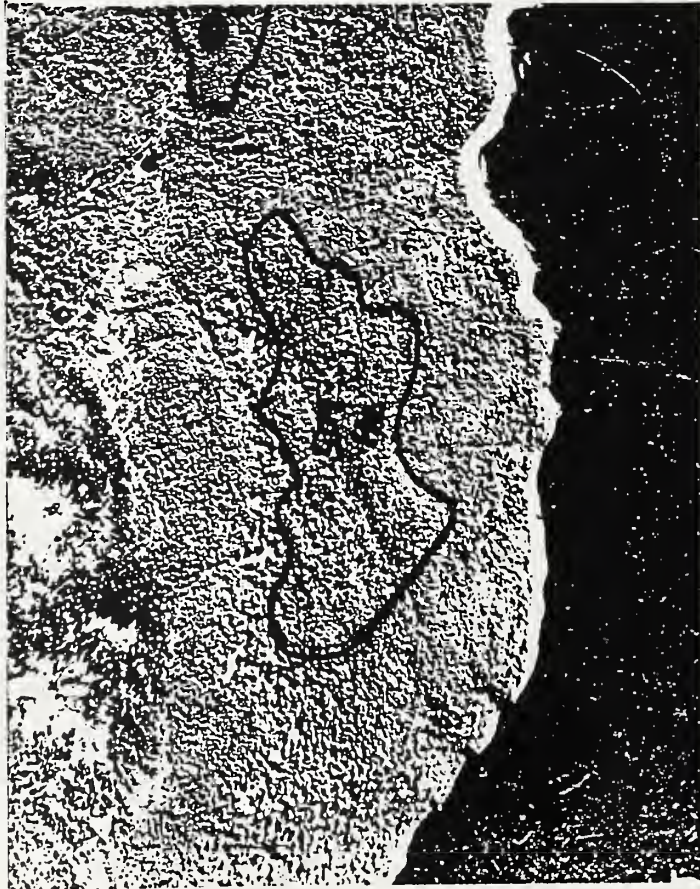
CMA-1900-05



STATEMENT OF INTENT BY IDT: Unit design so SW boundary steps a break above class III channel. Bottom body stays 500' from shoreline to protect Beach Fringe habitat. Small pocket of high bogland soil will be protected with one and log suspension. Split road away from V-notch in eastern 1/4 of unit. Will work with Vietha to shape unit.

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 2200  
 PHOTO INFO: YR 1976 FLT LN 41 STEREO PR 176-296  
 1/4 QUAD ID: 2951297

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

--- CLASS I STREAM  
 - - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING  
 (305) UNIT BOUNDARY, NUMBER,  
 H + LOGGING METHOD  
 --- EXISTING ROAD  
 - - - - PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with site index ranging from 61 to 83. Average site index is 80. Predominant plant series is western hemlock but some mountain hemlock is also present. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/deciduous club. Retain 3 snags per acre for diversity.

## TIMBER &amp; LOGGING

## SYSTEMS

Resource concerns: No road access so helicopter log unit. Best landing location would be the SW end area at the Barbary creek LTF across middle arm. If unable to fly across water logs would have to be flown uphill to landing in unit 503. Discontinuously fall timber away from name: Richard R. Zaborie V-notches in unit, date: 2/4/91

## ROADS &amp; ACCESS

Resource concerns: THIS SWET HARD ROAD AT THE BOULEVARD CK. LTF WOULD BE THE BEST LANDING TO TAKE UNIT TO. NEED TO BE CONSCIOUS OF SAFETY IN FLIGHT OVER MIDDLE ARM

## FISHERIES &amp;

## HYDROLOGY

Resource concerns: No fish concerns UGS - 8-14-90

## name:

## SOILS:

Spot grade V-notch in E. 1/4 unit. No concerns as logged out

## name:

## WILDLIFE:

Resource concerns: Loss of moderate and high value deer winter range. Boundary pulled up out of the beach fringe.

## name:

## RECREATION &amp;

## VISUAL:

name: Michael J. Weber  
 date: 8/14/90

Change to Roadless ROS inventory. Visual concerns

## name:

## CULTURAL:

name: Richard R. Zaborie  
 date: 9/24/90

## RESOURCE CONCERNS:

See Research Design for probability area to Quamdo

## name:

## Reviewed By:

name: Richard R. Zaborie  
 date: 8/14/90

## title:

Interdisciplinary Team Leader  
 date: 2/27/91



## UNIT DESIGN CARD

UNIT # 506

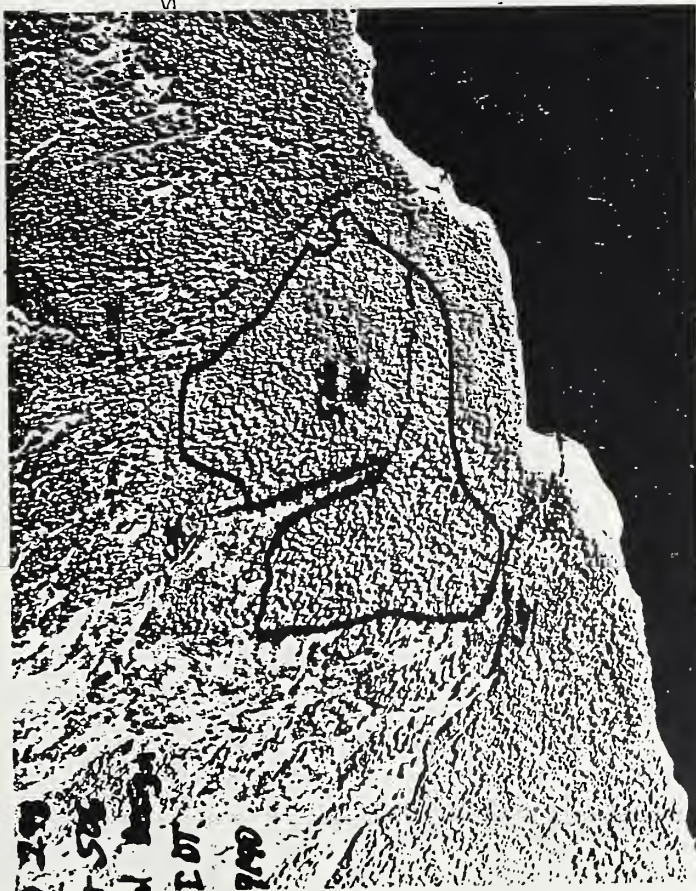
ACRES 111

## STATEMENT OF INTENT BY IDT:

Lower (Southam) unit boundary is 500' away from beach (beach fringe). Unit extended as far as possible uphill before extreme soil hazard is encountered. Directionally fall timber away from U-north in SW corner of unit adding to beach fringe. Unit was not extended beyond this north. Pockets of overstepped slopes in unit to be left for wildlife. Keep E boundary 75' from Class III stream. A big watershed to UNIT DESIGN (PLANNED) mitigate visual concern.

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 1443

PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-81/82  
1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

--- CLASS I STREAM  
- - - CLASS II STREAM  
| | | | CLASS III STREAM  
| | | | BUFFER ZONE  
① LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
(305) H

EXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS Clearcut unit followed by natural regeneration. Site productivity ranges from moderate to high. Site index ranges from 74 to 95 with an average of 83. Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/devils club. Retain 2 snags per acre for diversity.

Richard R. Zalaro 2/4/91

## TIMBER &amp; LOGGING

SYSTEMS RESOURCE CONCERNS: No road access so helicopter yard unit. The closest landing is across middle arm in unit 509. Directionally fall timber away from Class III stream in center of unit.

name: Richard R. Zalaro

date: 2/4/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: LANDING AT END OF ROAD #2538 IN UNIT 508.

## name:

d. L. L.

date: 10/28/90

## FISHERIES &amp;

HYDROLOGY

## RESOURCE CONCERNS:

ESTABLISH BOUNDARY ON EAST SIDE OF UNIT TO WEST SLOPE OF CLASS III STREAM. Pull back unit's SW corner boundary away from Class I stream 105 channel type to protect stream channel water quality and fish habitat. E-14-90. Boundary pulled back to protect Class I stream in SW corner. Unit name: D. KELLNER date: 8/14/90

## SOILS:

## RESOURCE CONCERNS:

Full suspension needed to reduce soil disturbance in unit waiting prime zone.

## name:

B.A. Weber

date: 9/24/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of moderate and high value deer winter range. Boundary pulled uphill to avoid an eagle tree and the beach fringe.

## name:

Michael J. Weber

date: 8/14/90

## RECREATION &amp;

## RESOURCE CONCERNS:

Visual: Change to K/S Readles inventory. Recommend 300' buffer between beach unit. Concerns w/ visuals.

## name:

M.B. Weber

date: 9/21/90

## CULTURAL:

## RESOURCE CONCERNS:

See Research Design for Probabilistic Area K/S Quads

## name:

date: 8/14/90

Reviewed By: Lower portion of unit v beach fringe

had logged early 1900's.

John S. Burna Bayanaki

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



UNIT # 507 ACRES 40

STATEMENT OF INTENT BY IDI:  
Lower unit boundary 500' back from beach (beach fringe) and as far up hill as you can go before encountering extreme soil hazard area. Keep upper east boundary out of V-notch slopes, Southwater boundary 1000' from estuary (estuary fringe). Leaving beach fringe protected. Visually blend unit into adjacent beach fields for visuals.  
+ location Helicopter land reduces risk of mass soil movement

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 520  
UNIT DESIGN (PLANNED) 1400'

PHOTO INFO: YR 1976 FLT LN 38A STEREO PR 276-202/  
1/4 QUAD ID: 201

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

--- CLASS I STREAM  
- - - CLASS II STREAM  
- - - CLASS III STREAM  
||||| BUFFER ZONE  
① LANDING  
UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305  
H  
EXISTING ROAD  
-----  
PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS  
Site index ranges from 76 to 100 with an average of 88.  
Predominate plant series is western hemlock. Predominate plant associates are western hemlock/blueberry and western hemlock/blueberry/debris club. Return 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS  
in unit 50%. Directionally fall timber away from V-notch along northwest boundary.

name: Richard R. Zaborie  
date: 2/14/90

ROADS & ACCESS  
name: Richard R. Zaborie  
date: 2/14/90

FISHERIES & HYDROLOGY  
name: Joseph S. Weber  
date: 10/27/89

RESOURCE CONCERNS:  
No fish concerns 0558-1490  
Protect V-notch, terminate boundary at slope break  
to V-notch in North East. Signify of unit, to point where  
quality to class 2. Spacing down to 8-14-90.  
name: Joseph S. Weber  
date: 10/27/89

SOILS:  
Full suspension required due to soil  
Hard  
name: Richard R. Zaborie  
date: 2/2/90

WILDLIFE:  
Boundary pulled up out of the beach fringe.  
name: Michael J. Weber  
date: 8/14/90

RECREATION & VISUAL:  
Recommend 300' buffer between beach unit. Changes to RDS & RDS  
inventories.  
name: Michael J. Weber  
date: 8/14/90

CULTURAL:  
See Research Design for Probability Area  
W.D. - Contact  
name: Michael J. Weber  
date: 8/14/90

RESOURCE CONCERNS:  
See Research Design for Probability Area  
W.D. - Contact  
name: Michael J. Weber  
date: 8/14/90

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date: 8/14/90

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date: 8/14/90

name: Michael J. Weber  
date: 8/14/90

name: Michael J. Weber  
date: 8/14/90

title: Interdisciplinary Team Leader  
date: 2/15/91

CMA-1900-05



# UNIT DESIGN CARD

## Alternatives 2, 4

UNIT # 508

Total ACRES 29

STATEMENT OF INTENT BY IDT:  
 Northwest boundary 300' from beach but stay 330' from eagle tree.  
 Near northwest corner of unit, Southwest boundary at present location  
 due to extreme soil hazard. No access to a landing to log lower  
 southeast corner of unit so this area deleted from unit, Split yard  
 v-notches in center of unit.

UNIT DESIGN (PLANNED)  
 LOG SYSTEM L-S EST VOLUME/AC 25 TOT VOLUME 125  
 PHOTO INFO: YR 19 76 FLT LN 38 A STEREO PR 276-201  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



### LEGEND

- Unit Boundary
- Landing
- Split Line
- Full Suspension
- Partial Suspension
- Stream
- Existing Spec Rd.
- Planned Road
- Temporary spur
- Road closure
- (after haul)
- Streamside zone

SILVICULTURE  
 Rx SYNOPSIS  
 Skyline yarding corridors. Cut areas should regenerate naturally. Site productivity ranges from moderate to high with an average site index of 95 (Fair). Preliminary plant series is western hemlock.  
 Redland R. Zelenko 2/13/91

TIMBER & LOGGING  
 SYSTEMS  
 Most landing needs to be big enough to receive helicopter volume from units 506, 507, 534 and 535. Landings located to Split Yard V-notch and diverging to right higher away from north. Lower cut planned to minimize impact to notches.  
 name: Redland R. Zelenko date: 2/13/91

ROADS & ACCESS  
 RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 FISHERIES & HYDROLOGY  
 RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: \_\_\_\_\_  
 below 75% slopes, RESOURCE CONCERNS: Recommend keeping backline

name: R. Huchner date: 2/14/91  
 WILDLIFE: \_\_\_\_\_  
 Partial cut would reduce impact on beach fringe. snag retention may not be necessary. RESOURCE CONCERNS: Loss of deer winter range.  
 name: M. J. Webber date: 2/15/91  
 RECREATION & VISUAL: \_\_\_\_\_  
 RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 CULTURAL: \_\_\_\_\_  
 RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 Reviewed By:

title: \_\_\_\_\_ date: 2/15/91  
 Interdisciplinary Team Leader



STATEMENT OF INTENT BY IDT:  
 Northwest boundary 300' from beach but stay 330' from eagle tree  
 near Northwest corner of unit. Southwest boundary at present location  
 due to extreme soil hazard. No access to a landing to log lower  
 southeast corner so this area isolated from unit. Split yard  
 the U-north in center of unit, plus landings needed on both  
 sides. Further lower eagle tree beach fringe where possible for visual.

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 725

PHOTO INFO: YR 1976 FLT LN 38A STEREO PR 276-201  
 1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE Clearcut unit followed by natural regeneration. Site  
 RX SYNOPSIS productivity ranges from moderate to high. Site index  
 ranges from 85 to 100 and averages 95. Unit preserved for potential  
 precommercial thinning in 20-25 years. Predominant plant species is  
 western hemlock. Predominant plant species are western hemlock/blackberry  
 and western hemlock/blackberry/shield fern. 2 snags per acre  
 for diversity.

TIMBER & LOGGING RESOURCE CONCERNS: Unit designed for uphill  
 SYSTEMS yarding with a live skyline / Flyer system.

Western most landing needs to be large enough to receive helicopter  
 volume from units 506, 507, 534 and 535. Landings located to split yard  
 U-north in center part of unit. Directionally fall timber away from  
 name: Richard R. Zelnick  
 date: 2/4/91

ROADS & ACCESS RESOURCE CONCERNS: ACCESSED BY ROAD 7536.  
 LANDING AT END NEEDS TO BE 13.6 ACRES TO  
 ACCOMMODATE HELICOPTER LANDING.

name: Richard R. Zelnick date: 10/23/80

FISHERIES & RESOURCE CONCERNS:

HYDROLOGY No fish concerns 08-8-14-90

PLANT CONCERNS, RESOURCE SIDEWATER DISTURBANCE AND PROTECT WATER QUALITY.  
 SPLIT YARD + DIRECTIONALITY FALL TIMBER AWAY FROM U-NORTH TO

name: D. S. Zelnick date: 8/14/80

SOILS:

RESOURCE CONCERNS:

No soils concerns as logged out. Suckling Adults and soil  
 wound deep by active water 75% slope, a broken piston and trees  
 name: R. A. Weber date: 7/20/90

WILDLIFE:

RESOURCE CONCERNS:

range and some high value bear habitat. Boundary pulled up 330' from  
 the eagle tree on west end but only 300' elsewhere along the beach.

name: Michael J. Weber date: 8/14/80

RECREATION & RESOURCE CONCERNS:

VISUAL:

Recommended pulling unit boundary back 300' from beach to end  
 of unit. Practicing individuals from the water. One eye to 1000' from beach.  
 name: Michael J. Weber date: 7/20/90

CULTURAL:

RESOURCE CONCERNS:

See Research Design for Probability Area Abolished

name:

date: 8/14/80

Reviewed By:

title: James S. Burns Buganski  
 Interdisciplinary Team Leader

date: 2/15/91



## UNIT DESIGN CARD

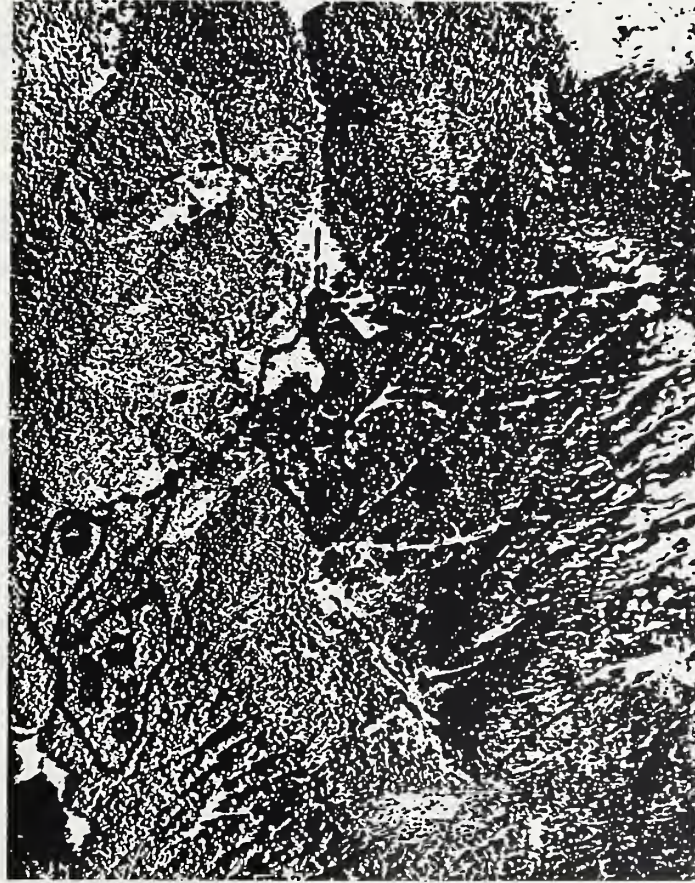
UNIT # 509 ACRES 29

## STATEMENT OF INTENT BY IDT:

Soils too wet to shovel yard so highlead unit. Potential vegetation problem due to wet soils - will probably require planting. Keep north boundary 50' from class III stream as a buffer. West boundary along brush field, north boundary along muskeg. Pocket of real wet soils in Southwest corner wt of unit due to low probability of not being able to get vegetation. V-murres along south boundary.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 2.5 TOT VOLUME 72.5  
 PHOTO INFO: YR 1976 FLT LN 38A STEREO PR 276-201  
 1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 L LANDING  
 305 UNIT BOUNDARY, NUMBER,  
 H + LOGGING METHOD  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS Clearcut unit. Site productivity ranges from low to moderate. Predominant plant series are western hemlock and mixed conifer. The mixed conifer series mainly occurs in western portion of unit. This area should be considered for hand planning of site-specific. To ensure adequate restocking of area, predominate plant associations are western hemlock/blueberry/leaves club and mixed conifer/blueberry/leaves club. Remain 2 snags per acre for diversity. *Richard R. Zelenka*

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: Unit designed for highlead yarding, both up and down hill, patches of unit will require one-end log suspension due to wet soils. A grabowski should be adequate where needed. Locate landings to split yard class III stream in northwest portion of unit. Initially, name: *Richard R. Zelenka* from this stream. date: 2/14/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: REACHED BY SPUR #15383 OFF OF MAIN RD #7538. THE DRINKING CAN BE HANDLED WITH CURRENT. A TEMP SPUR WILL BE ADDED TO NORTH WEST SIDE OF UNIT. *Richard R. Zelenka* date: 10/23/90

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: No fish concerns UGS 8-14-90 *Richard R. Zelenka*  
 Unit boundary placed back from class III in N.E. corner  
 NO HYDROLOGIC CONCERNS. *P. Keller* 8/14/90  
 SOIL: YARD, DISTANCE 511m CL. III, WEST SIDE OF UNIT. 11/13/90.  
 name: date:

## SOILS:

RESOURCE CONCERNS: Strub angustifolia after harvest possible. Maintain good trout and log suspension. Plan planting to spruce in lower end. name: *P. A. Weber* date: 9/29/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of lowland moderate deer winter range.

## name:

*Michael J. Weber* date: 8/14/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

## name:

*Richard R. Zelenka* date: 7/25/90

## CULTURAL:

RESOURCE CONCERNS: *Richard R. Zelenka*

## name:

See Research Design for Probability Area *Richard R. Zelenka* date: 8/14/90

## Reviewed By:

*James S. Burnand Bayaraki* date: 2/15/91

## title:

Interdisciplinary Team Leader



UNIT # 511 ACRES 34

## STATEMENT OF INTENT BY IDT:

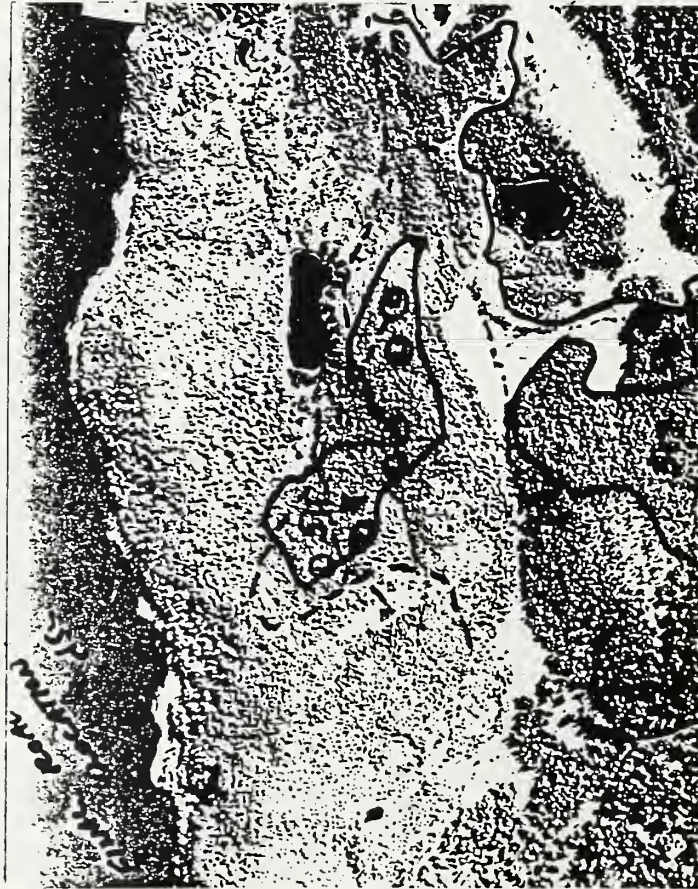
Leave area from ridge top to existing cut unit on south end as a wildlife travel corridor. Keep 100' lake buffer on north boundary. Packer of extreme hazard soils in central part of unit - do not log. Split yard V-notch in north central portion of unit, space landings to do this. One and log suspension will protect soils in west half of unit from disturbance.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 850  
 PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-80  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:15140



## LEGEND

--- CLASS I STREAM  
 - - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (1) LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
 (305 H)

EXISTING ROAD  
 PLANNED ROAD  
 - - - -

## SILVICULTURE

RX SYNOPSIS Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planning mixed conifer areas to alaska-cedar to retain current species composition. Site productivity ranges from low to moderate with an average site index of 72 (Fair). If possible, retain 2 snags per acre for diversity. Richard R. Ziegler 2/7/91

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: Unit designed for highland yarding. West half of unit is uphill, one end log suspension needed here to prevent hazard soils. East half is up and downhill, no suspension concerns. Split yard stream channel in unit. Discontinue log timber away from stream channel and lake buffer. Richard R. Ziegler date: 2/8/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT DECEASED OFF OF SPUR 75382 AND A TEMP SPUR.

name:

J. G. G.

date: 10/23/90

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

PULL BOUNDARY LINE OUT OF WETLAND, SPLIT YARD ON SMALL WILDM. TO PREVENT CHANNEL INTEGRITY AND WATER QUALITY. Unit boundary pulled back from lake to protect fish habitat. 0.5 acres less 8-14-90

name: D. KELLER

date: 8/13/90

## SOILS:

## RESOURCE CONCERNS:

one and log suspension needed in west half of unit

name: Randy G. G.

date: 7/20/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of moderate and high deer winter range. Boundary leaves 100' buffer along lake on north side. Travel corridor maintained between old and new unit.

name: Michael J. Weber

date: 8/14/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Change to 20' 24' Packer line inventory buffer in lake protects future recreation use of lake. Michael J. Weber date: 9/25/90

name:

## CULTURAL:

## RESOURCE CONCERNS:

See Research Design for Probability Area HDB Quamato

name:

date: 8/14/90

## Reviewed By:

title:

James S. Burns Burns  
 Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 512 ACRES 14

ACRES 14

**STATEMENT OF INTENT BY IDT:**

ENTIRE UNIT IN ESTUARINE FRINGE AND HIGH BEAR ~~BE~~ HABITAT - EFFECTS NEED TO BE TRACKED IN EIS. CLASS I STREAM IN UNIT, BUFFER EACH SIDE WITH 100' OF NO CUT. SOUTHERN BOUNDARY AT PRESENT LOCATION DUE TO WET SOILS WHICH WERE NOT TO BE LOGGED.

UNIT DESIGN (PLANNED)

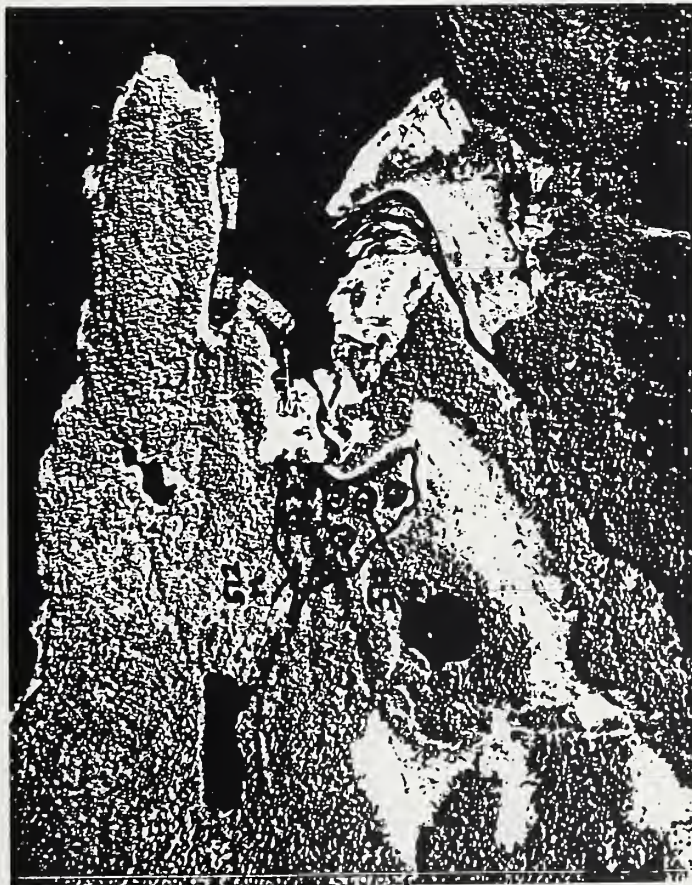
LOG SYSTEM	H	EST VOLUME/AC	TOT VOLUME	182
		13	13	

PHOTO INFO: YR 1976 FLT LN 40 STEREO PR 276-8/9

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

**Rx SYNOPSIS**                      to high. Site index ranges from 66 to 95 and averages 67. About half of the unit is western hemlock series and the rest is mixed conifer series. The mixed conifer series should be considered for hand planting of Alaska-cedar to maintain current species composition. Retain 2 snags per acre for diversity.

## TIMBER & LOGGING

SYSTEMS	probably be needed to avoid blindleuds. Class 1st streams in unit requires 100 foot buffer on each side. Directionally fall timber away from these by frequent small openings along south boundary
name:	Richard R. Z. Long
	date: 2/8/91

name: Edmund R. Z. Lange  
date: 2/8/91

ROADS & ACCESS

RESOURCE CONCERNS: UNIT HEAVY MAINTENANCE  
RENTS. WILL PROBABLY NEED TO CONSTRUCT LANDING  
W/ F. ROAD.

name: West date: 10/24/02

**FISHERIES & HYDROLOGY**

**RESOURCE CONCERNS:** MAINTAIN 100 FT. BUFFER THROUGHOUT STUDY AREA TO PROTECT CLASSED STREAMS FROM

PLUMBER RIPPED AND STAIN, (CHANCE INTERVIEW AND) WATER QUALITY  
AND FISH HABITAT. CLASS 1 stream in Unit. Vg Stakes the  
the 10' WATER IS CUTS IT ALSO. DO 1-23 '91 814-90

name: D. K. Linder 8/14/90 date:

SOILS:	RESOURCE CONCERNS:
Maintain Gasoline below cliffs to	avoid loss of soil.

1111

name: T. g. alb. RESOURCE CONCERNS: Endive unit is within the  
estuary fringe. High value bear habitat and moderate deer-wink-  
rem. date: 9/20/80

name: Michael J. Weber date: 8/14/90

RECREATION &	RESOURCE CONCERNS:
--------------	--------------------

**VISUAL:** \_\_\_\_\_

Regnumunda, 300' buffer from hatched. Re. Cuchugruy, 900' from  
Indo-Myso; danya Re. Strip 1000 from NE corner. Chadykold -  
Tram; new site. Chadykold - when a river, place.  
dae: mg "Ne-gya".

CULTURAL:	RESOURCE CONCERNS:
-----------	--------------------

see Research Design for Probability Area W.D.-Quantitative

name: \_\_\_\_\_ date: 8/14/00

Reviewed By:

1000 S. Burrus Blvd.

title: Interdisciplinary Team Leader date: 2/15/91

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## UNIT DESIGN CARD

UNIT # 515 ACRES 26

ACRES 26

STATEMENT OF INTENT BY IDT:

Locate landings as far inland (up slope) as possible to minimize impact to stream bank fringe, locate north boundary just behind landings for same reason. One end log suspension will minimize risk for mass wasting in W. 1/2 of land.

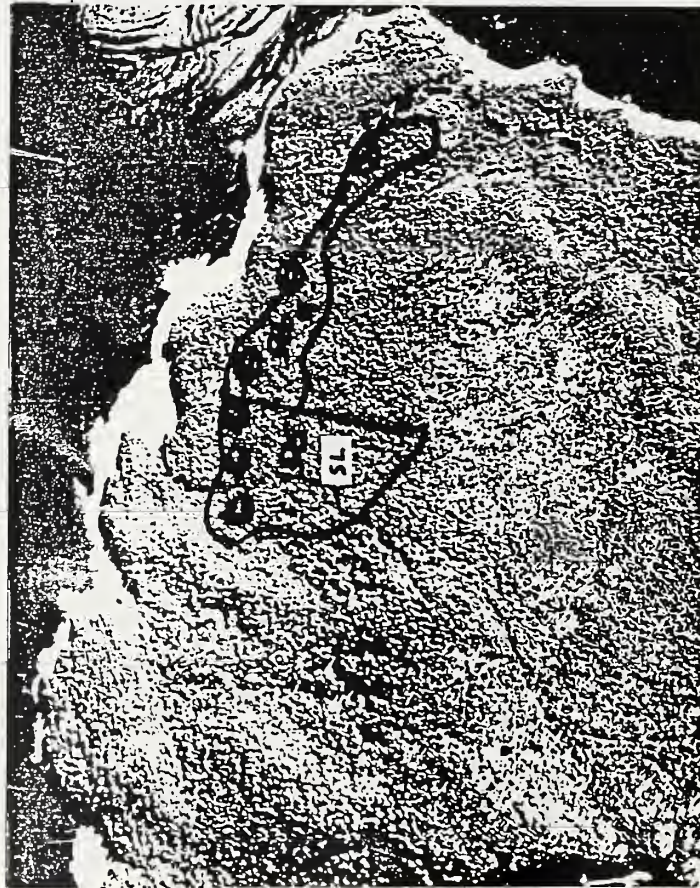
UNIT DESIGN (PLANNED)

LOG SYSTEM	EST VOLUME/AC	TOT VOLUME
57	25	650

PHOTO INFO: YR 1976 FLT LN 41 STEREO PR 176-297/298  
1/4 QUAD ID:

**PLANNED (ORTHO PHOTO)**

SCALE: 1:15840



## LEGEND

CLASS I STREAM

## CLASS II STREAM

CLASS II STREAM

CLASS III STREAM

CLASS III  
BUREAU ZONE

## BUFFER Z LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD

## PLANNED ROAD

Reviewed By:

Note not possible to achieve full suspension within unit. Track effects of one and long suspension in E/S.

title: Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05

**name:**

FISHERIES &	RESOURCE CONCERNS:
-------------	--------------------

**HYDROLOGY**  
SPLIT HAND ON V-NOTED TO PREVENT CHANNEL INTEGRITY  
CHECK ON SITE CONDITIONS AT ROAD CROSSINGS TO PREVENT WATERS  
QUALITY. NO FISH CONCERNS VS STARS THEN 8-14-90

name: 0\_Kill 11/x

SOILS:	RESOURCE CONCERNS:
--------	--------------------

Spent your vacation & fell seriously ill in  
west of U.S. to soc. imp. to lab. & c. p. m.  
name: R. J. West date: 7/28/10

**WILDLIFE:**

DWR. Unit needs to stay 500' from the beach.

name: *MS Weber*

RECREATION &	RESOURCE CONCERNS:
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**VISUAL:**

Recommend a 300' buffer from beach for rec. & minimal concerns. Change to 10.3 & Beach Commission to file.

**name:**

CULTURAL:	RESOURCE CONCERNS:
-----------	--------------------

See Research Design for Probability Area - Shwamlo

name:

date: 8/14/90



## UNIT DESIGN CARD

UNIT # 516

ACRES 21

## STATEMENT OF INTENT BY IDT:

Southern boundary at present location due to extreme soil hazard and over-steepened slopes. Make sure northern boundary is 330' away from eagle trees along beach. Locate northern boundary and landings as far as possible from the beach to minimize the amount of 520' beach fringe impacted.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 35 TOT VOLUME 525PHOTO INFO: YR 1976 FLT LN 41 STEREO PR 176-297298

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 L LANDING  
 305 UNIT BOUNDARY, NUMBER,  
 H + LOGGING METHOD  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS Clearcut unit followed by natural revegetation. Site productivity is moderate with an average site index of 80 (Fair). Predominate plant series is western hemlock. Predominate plant associations are western hemlock/blueberry and western hemlock/blueberry/kunk cabbage. If possible, retain 2 snags per acre for diversity. Richard R. Zabriskie 2/7/91

## TIMBER &amp; LOGGING

SYSTEMS RESOURCE CONCERNS: Unit designed for downhill yarding with a highlead system. Keep backline out of extreme hazard soils and below broken terrain which could result in blind leads.

name: Richard R. Zabriskie date: 2/8/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: Accessed off of road #7567, 15% adverse to angle top.

name: Richard R. Zabriskie date: 2/24/90

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

No concerns Wetland concerns 0.98  
8-18-90

name: D. K. Kuller date: 8/13/90

## SOILS:

RESOURCE CONCERNS:

No concernsname: Richard R. Zabriskie date: 8/26/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of low & moderate DWR, Bunchgrape and 2 eagle trees need to be avoided.

name: Matthew date: 2/1/91

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

Visual

Recommend 300' buffer from beach for use. Visual concerns. Change to 600' low DWR, 100' low DWR.

name: Matthew date: 2/2/91

## CULTURAL:

RESOURCE CONCERNS:

See Research Design for Probability Area 180-Quadrant

name:

date: 8/14/90

Reviewed By:

title:

John S. Bruno Bingham  
Interdisciplinary Team Leader

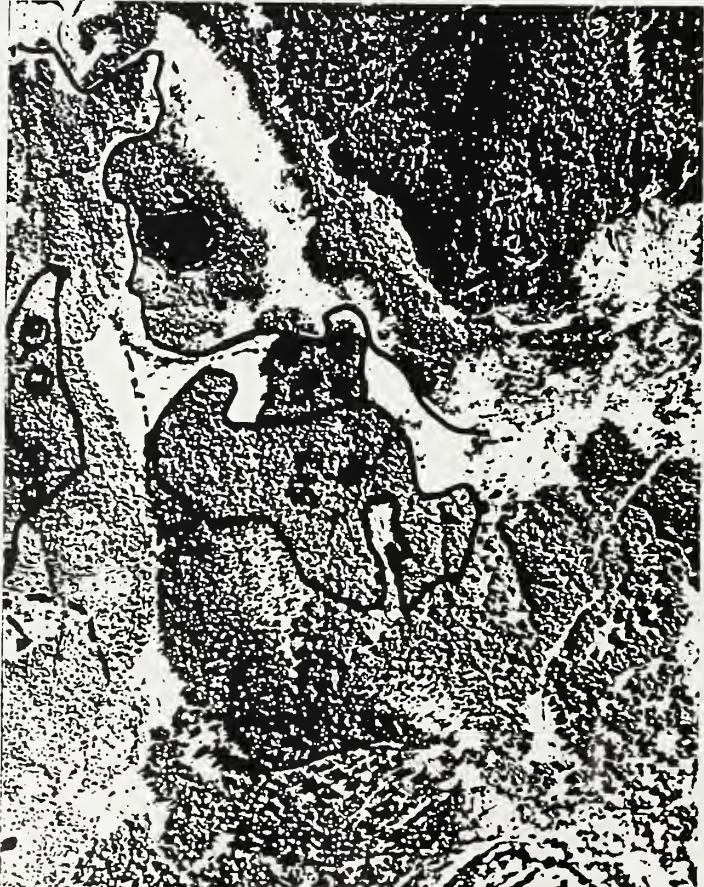
date: 2/15/91

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UNIT # 517

ACRES 57

STATEMENT OF INTENT BY IDT: East boundary pulled back to present due to extreme soil hazard areas. Directionally fall timber away from V-north in north central and southern parts of unit. Pull north boundary back from side slopes of V-north. Maintain wildlife travel corridor between units 517 and 511 so there is access to the estuary. Helicopter yarding will minimize risk of future soil disturbance.		LOG SYSTEM <u>HE</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>1425</u>	
UNIT DESIGN (PLANNED)		PHOTO INFO: YR <u>1976</u> FLT LN <u>39</u> STEREO PR <u>276-80</u>	
1/4 QUAD ID:		PLANNED (ORTHO PHOTO) SCALE: <u>1:15840</u>	
			
LEGEND			
--- CLASS I STREAM	305	UNIT BOUNDARY, NUMBER,	
--- CLASS II STREAM	H	+ LOGGING METHOD	
--- CLASS III STREAM			
BUFFER ZONE		EXISTING ROAD	
⊙ LANDING		PLANNED ROAD	
SILVICULTURE Clearcut with natural regeneration. Site productivity ranges from low to moderate with an average site index of 74 (Fair). Unit is adjacent to existing harvest unit.			
Rx SYNOPSIS Preliminary plant associations are western hemlock/blackberry and western hemlock/blackberry/devils club. It is possible to retain 2 snags per acre for diversity. Richard R. Zaboriecki 2/7/91			
TIMBER & LOGGING SYSTEMS		RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to landing along main road below unit. Directionally fall timber away from V-north in unit and away from existing units along east boundary.	
name: Richard R. Zaboriecki		date: 2/8/91	
ROADS & ACCESS RESOURCE CONCERNS: LANDING IS ANTICIPATED BEING MAINING ROAD # 2535			
name: D. Kellner		date: 10/23/90	
FISHERIES & HYDROLOGY		RESOURCE CONCERNS: BOUNDARY ON NORTH SIDE OF LADDER III STREAM SHOULD BE LOCATED ABOVE V-NORTH SIDE SLOPE, TO PROTECT LITMUS AND WAXE QUALITY. No fire concerns of Staunton 8-14-90	
name: D. Kellner		date: 8/13/90	
SOILS:		RESOURCE CONCERNS: Mainline land log suspension to prevent soil disturbance	
name: D. Kellner		date: 3/20/90	
WILDLIFE:		RESOURCE CONCERNS: Loss of moderate and high deer winter range. Boundary kept back from 511 to leave a travel corridor.	
name: Michael Tuleber		date: 8/14/90	
RECREATION & VISUAL:		RESOURCE CONCERNS: Range to 205V road less in unit.	
name:		date: 7/25/90	
CULTURAL:		RESOURCE CONCERNS: See Research Design for Probability Area W.D. Staunton	
name:		date: 8/14/90	
Reviewed By:			
title: <u>John S. Benda Benda</u> Interdisciplinary Team Leader date: <u>2/15/91</u>			

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## UNIT DESIGN CARD

UNIT # 518

ACRES 13

## STATEMENT OF INTENT BY IDT:

Locate landings as far into unit as possible and yard as far as possible upslope (approx. 80'). No other resource concerns noted by IDT team.

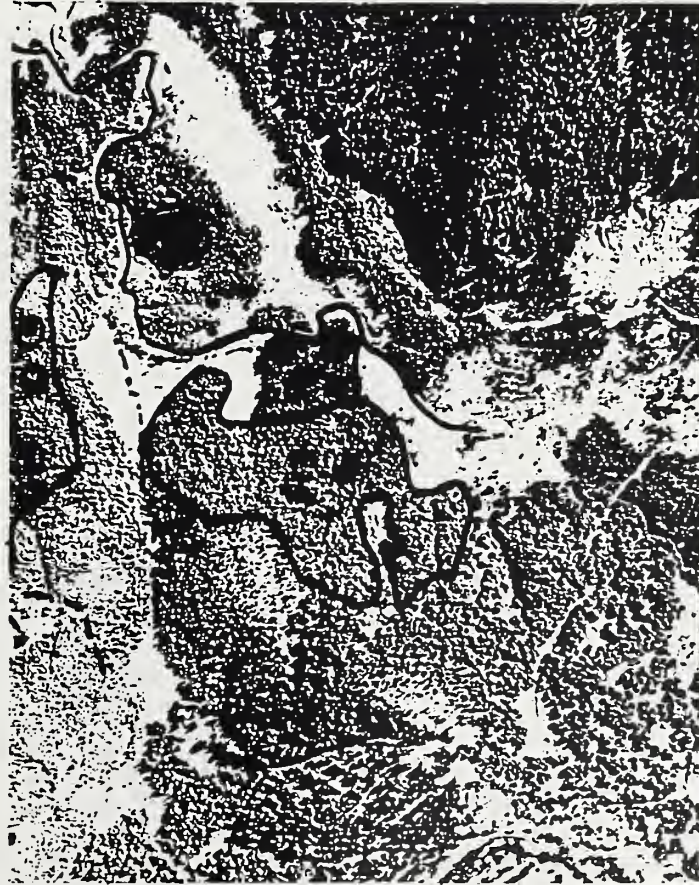
## UNIT DESIGN (PLANNED)

LOG SYSTEM \_\_\_\_\_ EST VOLUME/AC \_\_\_\_\_ TOT VOLUME \_\_\_\_\_

PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-80

1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: \_\_\_\_\_



## LEGEND

--- CLASS I STREAM  
 -.-.- CLASS II STREAM  
 ||||| CLASS III STREAM  
 L BUFFER ZONE  
 L LANDING  
 305 UNIT BOUNDARY, NUMBER,  
 H + LOGGING METHOD  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS Clearcut unit with natural regeneration. Site productivity ranges from moderate to high with an average site index of 86 (Fair). Unit adjacent to past harvest units. ? Predominate plant species is western hemlock. Predominate plant associations are western hemlock/blueberry/shield fern and western hemlock/blueberry. It is possible to retain 2 snags per acre for diversity. Redwood R. Zabriskie 2/7/91

## TIMBER &amp; LOGGING

SYSTEMS RESOURCE CONCERNS: Unit designed for downhill highhead logging. Locate landings as far as possible into unit. Convex slope in unit could lead to potential blowdowns.

name: Redwood R. Zabriskie

date: 2/8/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: Accessed off of Road #7535.

name: J. Cant

date: 10/23/90

## FISHERIES &amp;

RESOURCE CONCERNS:

## HYDROLOGY

No concerns in fish concerns UGS 1470

name: D. K. Zabriskie

date: 8/13/90

## SOILS:

RESOURCE CONCERNS:

No soils concerns

name: R. Weber

date: 7/26/90

## WILDLIFE:

RESOURCE CONCERNS:

Loss of lowland/Mountain deer winter range.

name: Michael J. Weber

date: 8/14/90

## RECREATION &amp;

RESOURCE CONCERNS:

## VISUAL:

Change to LOS+ Roadless inventory.

name: \_\_\_\_\_

date: 7/12/90

## CULTURAL:

RESOURCE CONCERNS:

See Research Design for Probability Area 43. 8/14/90

name: \_\_\_\_\_

date: 8/14/90

## Reviewed By:

Note convex slope may make it difficult to locate landings w/o blowdowns. High probability slope/shore line may change during burn. Burns by Burnmaster Interdisciplinary Team Leader date: 2/15/91


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## UNIT DESIGN CARD

UNIT # 519

ACRES 50

STATEMENT OF INTENT BY IDT: Locate northern boundary off of V-north side slopes. West boundary located as far as possible upslope before extreme soil hazard encountered. Directionally fall away from V-notch in central portion of unit. Stay out of pocket of extreme hazard soils along lower western boundary. Halicopter landing will provide protection to slide prone soils and minimize risk of slide.		SILVICULTURE RX SYNOPSIS Clearcut unit followed by natural regeneration. Site productivity is moderate with an average site index of 79 (fair). Predominant plant species is western hemlock. Predominant plant association is western hemlock/blueberry/leucis clubmoss. If possible, retain 2 snags per acre for diversity. Unit is above old harvest units.	
LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 650		TIMBER & LOGGING SYSTEMS Keep north boundary at slope break of class III stream. Directionally fall timber away from V-notches in unit. name: Richard R. Zaborge	
PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-79		ROADS & ACCESS UNIT IS PLANNED TO BE THE ONE USED IN UNIT 520	
1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840		name: J. C. Lutz date: 10/24/90	
		FISHERIES & HYDROLOGY NORTHERN BOUNDARY SHOULD BE AT TOP OF CLASS III V-NORTH SIDE SLOPE TO MAINTAIN CHANNEL INTEGRITY AND PREVENT WATER CUMULITY. This fish concerns US Forest Service 8-4-90	
		name: D. KELLER date: 8/13/90	
		SOILS: Tree suspension line for cross-sectioned & slice plane	
		name: R. Lutz date: 8/20/90	
		WILDLIFE: RESOURCE CONCERNS: Loss of moderate and high value clear winter range.	
name: Michael J. Weber date: 8/14/90		RECREATION & VISUAL: RESOURCE CONCERNS: Change to roadline inventory.	
name:		name:	
CULTURAL: RESOURCE CONCERNS:		CULTURAL: RESOURCE CONCERNS:	
See Research Design for Priority Area		name: date: 8/14/90	
Reviewed By:		Reviewed By:	
title:		title:	

## LEGEND

- - - - CLASS I STREAM  
 - . . . . CLASS II STREAM  
 - - - - CLASS III STREAM  
 - - - - BUFFER ZONE  
 - - - - LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

- - - - EXISTING ROAD  
 - - - - PLANNED ROAD

title: Janis S. Burns  
 Interdisciplinary Team Leader

date: 2/15/91

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## UNIT DESIGN CARD

## STATEMENT OF INTENT BY IDT:

Locate landing as far as possible upslope and reach as far upslope as possible because highlead logging is cheaper than helicopter logging. No other resource concerns noted by IDT team.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 78PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-791/4 QUAD ID: 78180

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305)  
HEXISTING ROAD  
- - - - -  
PLANNED ROADUNIT # 520 ACRES 6

SILVICULTURE Cleared unit followed by natural regeneration.  
 RX SYNOPSIS Site productivity ranges from moderate to high with an average site index of 95 (Fair). Consider stand for pre-commercial thinning in 20-25 years Unit adjacent to old harvest units. Plant species is western hemlock, 1st passage, retain 2 snags per acre for diversity. Packard R. Zaborski 2/7/91

## TIMBER &amp; LOGGING

## RESOURCE CONCERNS:

Unit designed for downhill highlead yarding. Reach as far as possible uphill. Unit could become larger at time of layout.

name: Packard R. Zaborski date: 2/8/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: LANDING LOCATEDVIST ABOVE RD. 7535.name: J. Lent date: 6/24/90FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

no concerns no fish concerns UFS B-14-90name: D. Kellner date: 8/3/90

## SOILS:

## RESOURCE CONCERNS:

no soils concerns

name: R. A. Baker date: 8/20/90

## WILDLIFE:

## RESOURCE CONCERNS:

winter range. loss of moderate cultured deername: Michael Weber date: 8/14/90RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

Change of roadlines, more story.name: no name date: 11/22/90

## CULTURAL:

## RESOURCE CONCERNS:

See Research Design for Probability Area YD Summitname: no name date: 8/14/90

## Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05

James S. Burns Bayashi  
 Interdisciplinary Team Leader



## UNIT DESIGN CARD

UNIT # 521 ACRES 34

## STATEMENT OF INTENT BY IDT:

Keep south boundary out of class III stream side slopes.  
 Packets of extreme soil hazard in unit leave those areas intact  
 for wildlife use. No other resource concerns noted by ID team.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 442
 PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-79  
 1/4 QUAD ID: 78180

PLANNED (ORTHO PHOTO) SCALE:



## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305)  
H
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearest unit followed by natural regeneration. Site  
 productivity ranges from moderate to high with an  
 average site index of 79 (Fair). Predominant plant series is  
 western hemlock. Predominant plant associations are western hemlock/  
 blueberry/shield fern and western hemlock/huckleberry/deck club (OP, WD)  
 unit adjacent to old harvest unit.

If possible, retain 2 snags per acre for diversity. PRZ 21791

## TIMBER &amp; LOGGING

RESOURCE CONCERNS: No road access so

helicopter yard unit. Fly timber to landing along  
 south boundary and away from V-notch in unit.

name: Michael R. Zebrowski date: 2/18/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZE A LANDING ALONG  
 MAIN ROAD # 7535 TO BRING VOLUMES TO.

name: Michael R. Zebrowski date: 10/24/90FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

SOUTH BOUNDARY SITUATED BE AT TOP OF CLASS III  
 V-NOTCH SITES CLOSE TO MINIMUM CHANNEL INTEGRITY.  
 AND REMOVE WATER QUALITY.

Downstream water quality is Class (stream UG) B-14-90  
 name: D. KELLNER date: 4/13/90

## SOILS:

## RESOURCE CONCERNS:

high bog and soils require fuel suspension fuel

name:

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate velvet deer

winter range.

date: 2/17/90name: Michael J. Weber

## RECREATION &amp;

## RESOURCE CONCERNS:

VISUAL:

date: 8/14/90

Change to Roadless inventory.

name:

## CULTURAL:

## RESOURCE CONCERNS:

See Research Design for Probability Area MS Quamto

name:

date: 2/14/90

## Reviewed By:

title:

Janis S. Bernal Bugarski  
 Interdisciplinary Team Leader

date: 2/15/91

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## UNIT DESIGN CARD

UNIT # 522

ACRES 122

## STATEMENT OF INTENT BY IDT:

Soils field review needed prior to harvest to determine if unit should be logged or not. No other resource concerns noted by ID team

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 3050PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-7877

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305)  
HEXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS: Clearcut unit followed by natural regeneration. Site productivity ranges from low to high with an average site index of 56 (Fair). Unit above old harvest unit is western hemlock. Predominant plant series is blueberry/shield fern and western hemlock/blueberry/deutz club. If possible, retain 2 snags per acre for diversity. Richard R. Zabin & 2/17/91

## TIMBER &amp; LOGGING

SYSTEMS: RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to landing along main road below unit. Directionally fall timber away from old harvest unit along west boundary.

name: Richard R. Zabin & date: 2/8/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: CUTLINE SAME LANDING  
15 UNITS 521, 524 ALONG MAIN ROAD 7535 TO 8246 LOGS TO.

name: L. C. L. date: 10/24/90

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: HIGH MASS WASHOUT HAZARD. See Soils Review.  
POTENTIAL TO DELINE SEVERITY TO CLASS I STREAM.

Water quality concern to Class I stream below unit UGS 8-14-90

name: D. KELLNER date: 8/13/90

## SOILS:

RESOURCE CONCERNS: Overstepped slopes combined w/ high hazard soils require field review to determine mass wasting hazard potential

name: Robert date: 2/7/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of low and moderate clear water range.

name: Michael J. Weber date: 8/14/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

Change to ROS & Roadless inventory.

name:

date: 9/27/91

## CULTURAL:

RESOURCE CONCERNS: See Research Design for Probabilty Area 43 Luwato

name:

date: 8/11/90

## Reviewed By:

Note concern for steep slopes and high hazard soils. Soils reviewed at time of layout may change size / slope of unit. Potential unit may need to be dropped. Janis S. Burns Bengard Interdisciplinary Team Leader date: 2/15/91

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## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT:  
Keep eastern boundary 100' from Class I stream. Keep Northern boundary 100' from Class I stream. No other resource concerns noted by ID team.

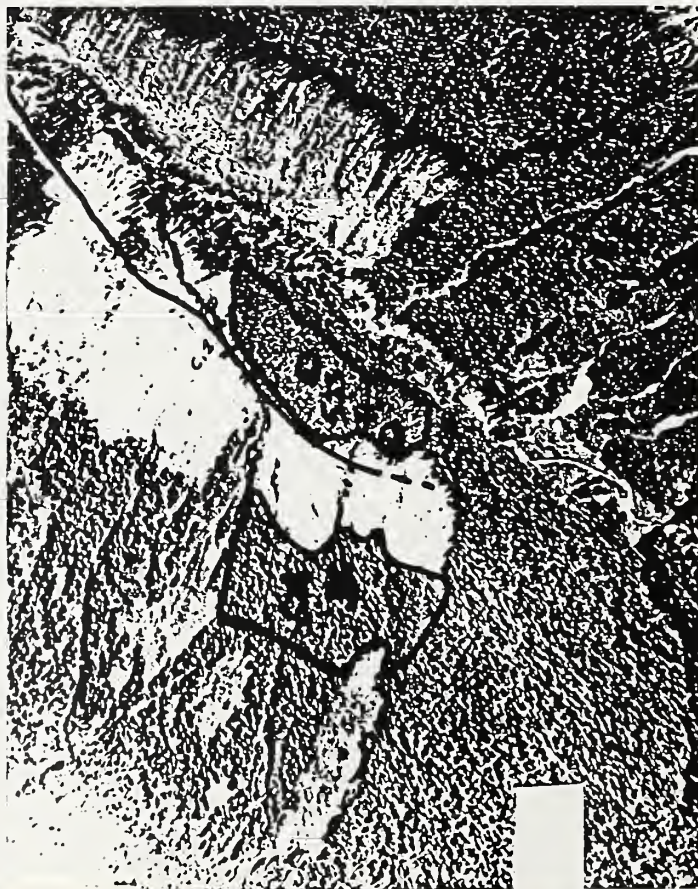
## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 370PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-78/77

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE:

1:15840

## LEGEND

--- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
--- BUFFER ZONE  
--- LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

305  
H

--- EXISTING ROAD  
--- PLANNED ROAD

UNIT # 523ACRES 30

SILVICULTURE  
Rx SYNOPSIS  
Clearcut unit. Predominate plant series is mixed conifer. Consider planting unit with alaska-cedar to retain current species composition. Site productivity is low with an average site index of 61 (Fair). Predominate plant associations are mixed conifer/blueberry and mixed conifer/blueberry/crank cabbage Unit adjacent to old harvest unit.  
If possible retain 2 snags per acre for diversity. Retain 2/17/91

TIMBER & LOGGING  
SYSTEMS  
RESOURCE CONCERNS: Unit designed for high-level logging, both up and downhill. Directionally fall timber away from stream buffer along northwest boundary and away from north in unit split yard unit in unit.  
name: Richard R. Zeller date: 2/8/91

ROADS & ACCESS  
RESOURCE CONCERNS: will need a trail to split to get to landing in middle of unit.

name: J. Cant date: 10/24/90  
FISHERIES & HYDROLOGY  
RESOURCE CONCERNS:  
MAINTAIN 100 FT BUFFER ON CLASS I STREAM ON WEST SIDE BOUNDARY OF UNIT TO PREVENT RUNAWAY

Class I stream along N+E. Unit boundary UGS 8-14-90  
name: D. Kellner date: 8/1/90  
SOILS: 40% 50/50 concerns  
RESOURCE CONCERNS:

name: Emily Weber date: 8/10/90  
WILDLIFE: Loss of moderate value deer winter range.  
RESOURCE CONCERNS:

name: Michael Weber date: 5/14/90  
RECREATION & VISUAL: No recreation concerns.  
RESOURCE CONCERNS:

name: 305 H date: 5/15/90  
CULTURAL: See Research Design for Probability Area  
RESOURCE CONCERNS:

name: 305 H date: 5/15/90  
Reviewed By:

title: John S. Burns Beyarski date: 2/15/91  
Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 524 ACRES 32

## STATEMENT OF INTENT BY IDT:

Directionally fall timber away from the 2 V-notches in the northern half of unit. ~~At the~~ West boundary located as far upslope as possible before encountering extreme soil hazard area: these measures will help maintain soil stability and water quality.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 416PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-78/77  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305 UNIT BOUNDARY, NUMBER,  
H + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

Clean-cut unit followed by natural regeneration. Site productivity ranges from moderate to high with an average site index of 99 (Fgr). Consider unit for precommercial thinning in 20-25 years. Unit adjacent to old harvest unit. is western hemlock. If possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to landing along main road below unit. Directionally fall timber away from V-notches in unit and away from openings along unit boundary.

name: Richard R. Zaborie date: 2/18/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: HEAVILY IMPROVED TO SHINE -  
SHINE AS UNITS 521, 522.

## name:

1/628

## RESOURCE CONCERNS:

Directional Fallcut. Away from V-notches without unit. maintain channel integrity. Reduce side-slope disturbance to prevent water quality.

## FISHERIES &amp; HYDROLOGY

no fish concerns Vgsferosolia 8-14-90

## name:

D. Kellner

## SOILS:

## RESOURCE CONCERNS:

date: 8/18/90

## WILDLIFE:

## RESOURCE CONCERNS:

date: 2/7/91

## name:

Michael J. Weber

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

date: 3/14/90

## CULTURAL:

## RESOURCE CONCERNS:

date: 2/27/90

## name:

See Research Design for Probability Area

## RESOURCE CONCERNS:

date: 2/14/90

## title:

Interdisciplinary Team Leaderdate: 2/15/91

## name:

James S. Burns Bayard

## RESOURCE CONCERNS:

date: 2/15/91

## name:

See Research Design for Probability Area

## RESOURCE CONCERNS:

date: 2/14/90

## title:

Interdisciplinary Team Leaderdate: 2/15/91

## name:

See Research Design for Probability Area

## RESOURCE CONCERNS:

date: 2/14/90

## title:

Interdisciplinary Team Leaderdate: 2/15/91

## name:

See Research Design for Probability Area

## RESOURCE CONCERNS:

date: 2/14/90

## title:

Interdisciplinary Team Leaderdate: 2/15/91

## name:

See Research Design for Probability Area

## RESOURCE CONCERNS:

date: 2/14/90

## title:

Interdisciplinary Team Leaderdate: 2/15/91

## name:

See Research Design for Probability Area

## RESOURCE CONCERNS:

date: 2/14/90

## title:

Interdisciplinary Team Leaderdate: 2/15/91

## name:

See Research Design for Probability Area

## RESOURCE CONCERNS:

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Interdisciplinary Team Leaderdate: 2/15/91

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See Research Design for Probability Area

## RESOURCE CONCERNS:

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See Research Design for Probability Area

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See Research Design for Probability Area

## RESOURCE CONCERNS:

date: 2/14/90

## title:

Interdisciplinary Team Leaderdate: 2/15/91

## name:

See Research Design for Probability Area

## RESOURCE CONCERNS:

date: 2/14/90

## title:

Interdisciplinary Team Leaderdate: 2/15/91



## UNIT DESIGN CARD

UNIT # 525 ACRES 11

## STATEMENT OF INTENT BY IDT:

Keep unit boundary 100' from Class I stream along west boundary. Potential for sediment delivery into stream so hydrologist needs to be involved in final unit layout. Keep North boundary 300' from brush field for wildlife travel corridor. Soil scientist also needs to be involved in final unit layout due to sedimentation sedimentation potential.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 275PHOTO INFO: YR 1976 FLI LN 40 STEREO PR 276-1019

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15140



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

(305 H)

EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

Clearcut unit followed by natural regeneration. Site productivity is high with an average site index of 45 (Furr). Unit is adjacent to an old hansen unit.

Predominate plant species is western hemlock, treemimic plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. It is possible to retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: Unit designed for dam hill highland yarding. Directionally fall timber away from stream and riparian zone along west boundary.

name: Richard R. Zalgorskidate: 2/8/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: USED SMART SPUR OFF OF RECONSTRUCTED ROAD TO REACH BOTTOM OF UNIT

name: Richard R. Zalgorskidate: 10/24/90

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Class I stream on NW + SW corner of unit. Boundary pulled back at least 100' to protect Class I stream. V.D. Stavosha B-14-90. HIGH SEDIMENT DELIVERY POTENTIAL TO CLASS I STREAM. FIELD REVIEW NEEDED

name: D. KELLUMdate: 8/14/90

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

name: RA WELSHdate: 9/2/90

## WILDLIFE:

## RESOURCE CONCERNS:

range. Unit stays out of stream corridor allowing travelway.

name: Michaeldate: 2/1/91

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

No Recreation Concerns.

name:

date: 9/2/90

## CULTURAL:

## RESOURCE CONCERNS:

SEE RESEARCH DESIGN FOR PROBABILITY AREA

name: Richarddate: 8/14/90

## Reviewed By:

Note concerns for sediment potential to stream. Soils implies is logged. w/100' buffer-risk is reduced to class I stream. Field verification may require minor adjustments.

title:

James S. Burns Bayanash

date: 2/15/91

Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 526 ACRES 27

## STATEMENT OF INTENT BY IDT:

Uphill boundaries at present location due to extreme soil hazard. Potential for sediment delivery to Class I stream in valley bottom. Soil scientist and hydrologist need to be involved in final unit layout. Surface boundary cannot be tied into brushfield due to extreme hazard soils. Mountain wildlife travel corridor along

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 351

PHOTO INFO: YR 1976 FLT LN 40 STEREO PR 276-10/9  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
- - - CLASS II STREAM  
- - - CLASS III STREAM  
||||| BUFFER ZONE  
⊙ LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

305  
H

EXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS Cleared unit followed by natural regeneration. Site productivity is high with an average site index of 95 (Furr). Consider unit for precommercial thinning in 20-25 years. Unit is adjacent to old harvest unit. Predominate plant species is western hemlock. It possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

SYSTEMS RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to landing in unit 525. Directionally fall timber away from openings along unit boundaries.

name: Richard R Zaborge

date: 2/8/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILIZE LANDING AT THE END OF RECONSTRUCTED ROAD # 75351 AND NEW CONSTRUCTION.

## name:

Richard R Zaborge

date: 10/24/90

## FISHERIES &amp;

HYDROLOGY RESOURCE CONCERNS:

No fish concerns UG Staustha 8-14-90  
HIGHT SEDIMENT DELIVERY POTENTIAL TO CLASS I STREAM. FIELD REVIEW REQUESTED

name: D. KELLNER

date: 8/19/90

## SOILS:

RESOURCE CONCERNS:  
Full suspension required due to clayey soils

name: R. A. J. J. J.

date: 7/20/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of low-value area.  
Travel corridor left along northeast boundary.

name: M. T. J. J. J.

date: 2/1/91

## RECREATION &amp;

VISUAL: RESOURCE CONCERNS:

Change to 100% low maintenance forest,

name:

date: 9/27/92

## CULTURAL:

RESOURCE CONCERNS:  
See Research Design for Probability Area of Quads

name:

date: 8/14/90

## Reviewed By:

able used for soils & Hydrology specialists during layout. Unit design may change after field review.

title:

date: 2/15/91

Interdisciplinary Team Leader

CMA-1900-05

## UNIT DESIGN CARD

UNIT # 527

ACRES 15

## STATEMENT OF INTENT BY IDT:

Upper (stream) boundary at present location due to extreme hazard soils. Keep southern boundary out of V-notch side slopes. The unit into brushfields on north and south ends for visual protection soils and maintain water quality by staying out of V-notch side slopes.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 195  
 PHOTO INFO: YR 1976 FLT LN 40 STEREO PR 276-10/11  
 1/4 QUAD ID: \_\_\_\_\_

## PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
 - - - CLASS II STREAM  
 ||||| CLASS III STREAM  
 (L) BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
 (305) H  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity is moderate with an average site index of 79 (Farr). Unit is adjacent to old harvest unit. Predominant plant series is western hemlock. Predominant plant association is - western hemlock/blueberry/leaves club. If possible, retain 2 snags per acre for diversity. Richard R. Zabel 2/7/91

## TIMBER &amp; LOGGING

RESOURCE CONCERNS: No road access, 50 helicopter yard unit. Fly timber to landing in unit 525. Directionally fall timber away from class III stream along south boundary and away from openings along north and west boundaries. name: Richard R. Zabel date: 2/8/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UTILITY SAME REMAINING AS FENCE UNIT 526

## name:

~~delisted~~

date: 6/24/90

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No flow concerns of Steenskin B-4-90 within southern boundary. Name SID-30A-OF V-NOTCH, TO PROTECT CLASS III CHANNEL + WATER QUALITY.

name: D. Keen

date: 8/14/90

## SOILS:

## RESOURCE CONCERNS:

Full suspension required due to slide prone soils.

name: R.A. O'Neil

date: 7/20/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of low value deer.

name: M. J. Weber

date: 2/14/91

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Change to RDS + Roadless inventory.

name:

date: 9/27/91

## CULTURAL:

## RESOURCE CONCERNS:

See Research Design for Probable Area. Addendum

name:

date: 8/14/90

## Reviewed By:

James S. Burn Bugarski  
 Interdisciplinary Team Leader

title:

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 528

ACRES 50

## STATEMENT OF INTENT BY IDT:

Do not log side slopes of V-notch in central portion of unit. Also directionally fall timber away from this notch. Do not log patch of extreme hazard soils in northwest corner of unit. Upper boundary ties into muskeg/low timber volume (less than 8MBF/acre). Do not log V-notch slopes on south boundary, directionally fall timber away from this notch also do not enter unit to N. width.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 1250PHOTO INFO: YR 1976 FLT LN 38 STEREO PR 276-99198

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 ( ) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD305  
HEXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

Clearcut unit. Major plant series are western hemlock and mountain hemlock. Predominate plant associations are western hemlock/blueberry/deciduous club and mountain hemlock/blueberry/deciduous. Site productivity ranges from low to high with an average site index of 71 (Fair). If possible, retain 2 snags per acre for diversity.

Richard R. Zelnick 2/17/91

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: No road access 50 helicopter log unit. Fly timber to landing in unit 529. Directionally fall timber away from V-notch in unit and away from V-notch along south boundary. Keep south boundary at slope break of V-notch.

name: Richard R. Zelnick date: 2/8/91

ROADS &amp; ACCESS RESOURCE CONCERNS: UTILIZE THE MIDDLE ROAD IN UNIT 529 TO GET LOGS TO.

## name:

if lost date: 10/24/90

FISHERIES &amp; HYDROLOGY RESOURCE CONCERNS: No fish concerns. V-notch concerns 8-14-90

AVOID HARVEST ON V-NOTCH SLOPES TO PREVENT CHANGE FROM MASS WATERSHED INPUT. DISCONTINUE FALL AWAY FROM V-NOTCH.

## name: D. Kozlitz

date: 8/11/90

SOILS: RESOURCE CONCERNS: Full suspension required on oversteepened slope. Run out.

name: R. A. Wolf date: 9/20/90  
 WILDLIFE: RESOURCE CONCERNS: Less of moderate DWR. Travel corridor left between this and old unit to north.

name: M. J. Weber date: 2/1/91  
 RECREATION & VISUAL: RESOURCE CONCERNS:

name: M. J. Weber date: 2/1/91  
 CULTURAL: RESOURCE CONCERNS:

name: M. J. Weber date: 2/1/91  
 Change to ROS & Resource Management.

name: M. J. Weber date: 2/1/91  
 CULTURAL: RESOURCE CONCERNS:

name: M. J. Weber date: 2/1/91  
 See Research Design for Probability Area. No Snags.

name: M. J. Weber date: 2/1/91  
 Reviewed By:

name: M. J. Weber date: 2/1/91  
 title: Interdisciplinary Team Leader

name: M. J. Weber date: 2/1/91  
 title: Interdisciplinary Team Leader

name: M. J. Weber date: 2/1/91  
 title: Interdisciplinary Team Leader

name: M. J. Weber date: 2/1/91  
 title: Interdisciplinary Team Leader

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 529 ACRES 46

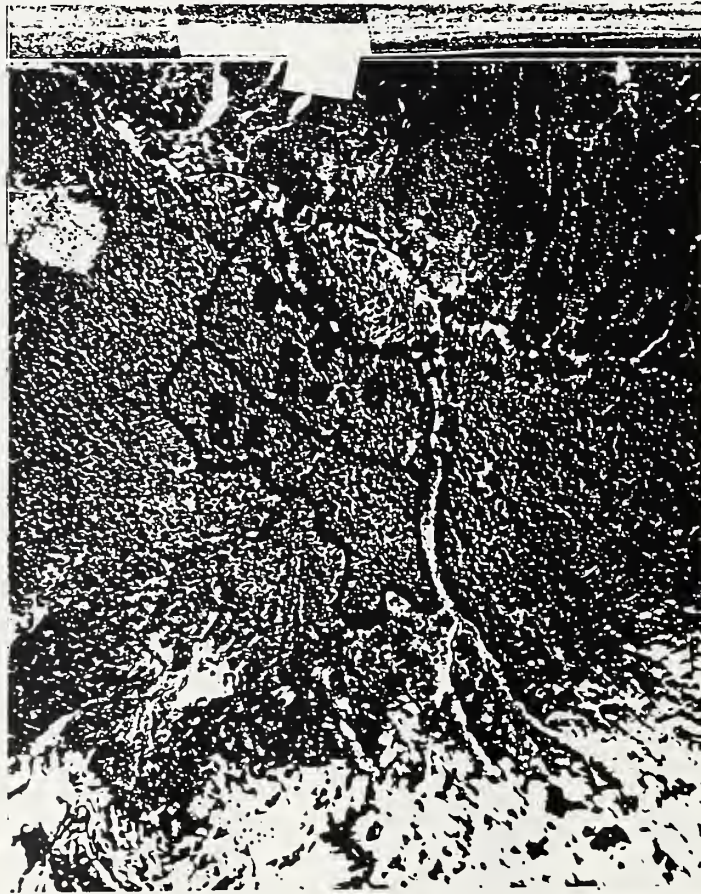
STATEMENT OF INTENT BY IDT:  
Do not log V-notch channels in central portion of unit and along southern boundary. Directionally fell timber away from these notches. Stay 100' away from class I stream in northeast corner of unit. Stay 50' away from class III stream on eastern boundary. Do not extend unit to north to maintain wildlife travel corridor.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1150  
 PHOTO INFO: YR 1976 FLT LN 38 STEREO PR 276-99/98  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

305  
H

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE Rx SYNOPSIS Clearcut unit. Predominate plant series are western hemlock and Sitka spruce. Western hemlock areas should regenerate naturally. Plant Sitka spruce areas to space to ensure adequate restocking. Site productivity ranges from low to high with an average site index of 84 (Fair). If possible, retain 2 snags per acre for diversity. Richard R. Zaborak. 2/7/91

TIMBER & LOGGING SYSTEMS Resource CONCERNS: Unit designed for downhill highlead yarding. Split yard V-notch in unit and directionally fell timber away from this notch. Directionally fall timber away from stream buffer along east boundary. date: 2/8/91

ROADS & ACCESS name: Richard R. Zaborak date: 2/8/91  
 RESOURCE CONCERNS: will need some sort of ramp to access the landings as road

FISHERIES & HYDROLOGY name: J. C. Lee date: 8/24/90

RESOURCE CONCERNS: Potential eroded, class I channels in NE corner of unit. Unit boundary sketched back to slope break to protect unlogged channels. V. J. Stawski 8-14-90. This measure on V-notch side of unit. Directional fall timber V-notch to protect unit. Unit boundary sketched back to slope break to protect unlogged channels. name: J. C. Lee date: 8/24/90

SOILS: Resource CONCERNS: Split yard V-notch. No other soils concerns date: 9/20/90

name: P. A. Woff date: 9/20/90  
 WILDLIFE: Resource CONCERNS: Loss of invertebrate OWP. Travel corridor left between this and old unit to the north.

name: M. Weber date: 2/1/91  
 RECREATION & VISUAL: Resource CONCERNS:

Change to KOS & Roadless inventories.

name: M. Weber date: 9/27/90

CULTURAL: Resource CONCERNS:

See Research Design for Probability Area H.B. Rasmussen date: 10/14/90

Reviewed By: Name concerns for potential unlogged class I stream. Field review needed by F&W biologist and Unit ecologist may change due to buffer and channel nearby class I stream. name: J. S. Burns date: 2/15/91  
 Interdisciplinary Team Leader

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 531

ACRES 37

## STATEMENT OF INTENT BY IDT:

Stay 75' from Class II stream along easterly boundary. Do not log areas at recent slides along upper, west boundary. Additional wire rope will be have to be tagged on in order to reach timber in southwest portion of unit added from unit 530. One end log suspension will protect soils in  $5\frac{1}{2}$  of unit.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 925  
 PHOTO INFO: YR 1976 FLT LN 38 STEREO PR 276-100/99  
 1/4 QUAD ID: \_\_\_\_\_

## PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING  
 (H) UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS Clearcut unit. Predominant plant series are western hemlock and Sitka spruce. Western hemlock areas should regenerate naturally. Plant Sitka spruce areas to spruce to ensure adequate restocking. Site productivity ranges from low to high with an average site index of 93 (mean). Consider stand for precommercial thinning in 20-25 years. If possible, retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

SYSTEMS RESOURCE CONCERNS: Unit designed for clearcut slashline yarding. One end log suspension required to protect sensitive soils. Slashline also needed due to 1000' reach. System must landing may need to be relocated to avoid blindfolds. Sensitive soils fall timber away from Class II stream buffer along river boundary. name: Richard R. Zakaruk date: 2/18/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: NO CONCERNS

## name:

date: 10/24/80

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: Class 2 stream along eastern boundary of unit. Unit boundary pulled back at least 75 feet to protect Class 2 stream. W. Stawosher B-14-90

## name:

date:

## SOILS:

RESOURCE CONCERNS: 1 end log suspension in south  $\frac{1}{2}$  of unit.

## name:

date: 9/20/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate & high DWR. Unit should pull back 100' from Class II stream.

## name:

date: 2/1/91

## RECREATION &amp; VISUAL:

date:

## name:

date:

## CULTURAL:

date:

## name:

date:

## name:

date:

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## UNIT DESIGN CARD

UNIT # 533

ACRES 17

## STATEMENT OF INTENT BY IDT:

South boundary moved to give extreme hazard soils and to provide at least 100' lake buffer, west boundary at present location due to extreme hazard soils. Moving south boundary above extreme hazard soils also moves recreation's closed 100' lake buffer. Helicopter landing will provide maximum protection for sensitive soils.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 221  
 PHOTO INFO: YR 1976 FLT LN 38 STEREO PR 276-75/96  
 1/4 QUAD ID:

## PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate with an average site index of 71 (Fair). Predominate plant series are western hemlock and mountain hemlock. Predominate plant associations are western hemlock/blueberry and mountain hemlock/blueberry/Cassiope. If possible, retain 2 snags per acre for diversity. Richard R. Zaborge

TIMBER & LOGGING  
SYSTEMS

Directionally fall timber away from V-notch along west boundary. RESOURCE CONCERNS: No road access so helicopter yard unit. Fly timber to landing in unit 508.

name: Richard R. Zaborgedate: 2/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: LANDING IS REMAINS OF ROAD 7538 IN UNIT 508.

name: D. Galtdate: 10/23/90

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: 100' unit boundary on lake shore. Unit boundary buffer back 100' minimum to protect lake shore habitat. J. G. Stowman 8-14-90  
 Emphasize protection of unstable v-notch side slope during timber felling and helicopter yarding. S. Paustian  
 date: 2/27/91

## SOILS:

RESOURCE CONCERNS:

Fuel suspension req due to overstocked, old spruce soils

name: R. Hebertdate: 7/25/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate DWR. Buffer left around lake.

name: M. J. Weberdate: 2/1/91

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

## CULTURAL:

RESOURCE CONCERNS:

Recommend pulling unit back from lake shore 300' for recreation buffer. 25' at the boundary line. 200' from Potential trail (see Lake Shore). (Paustian)  
 name: J. G. Stowman  
 date: 9/22/90

## CULTURAL:

RESOURCE CONCERNS:

See Research Design for Probability Area. M. B. Guenther

name:

date: 2/1/90

## Reviewed By:

lake buffer is 100', will provide some screening for recreation concerns.

title:

Interdisciplinary Team Leader

date: 2/15/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 534

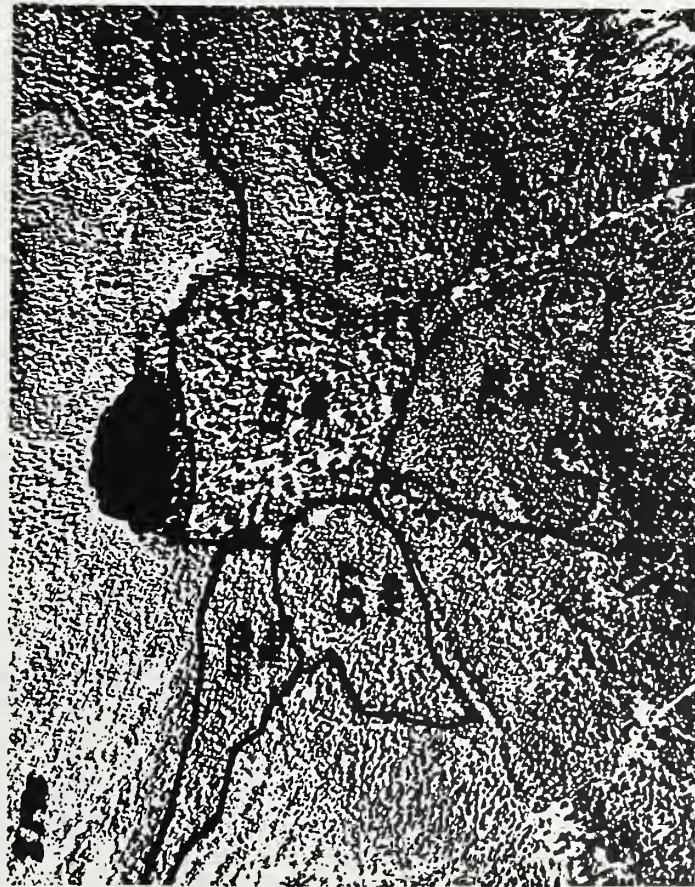
Total  
ACRES 77

STATEMENT OF INTENT BY IDT:  
Keep north boundary 100' from lake. Unit in riparian area with high bear habitat. Several class II streams in unit, unit in high clear winter range. Due to wildlife, recreation fish and hydrology concerns, unit should not be clearcut but have a partial cut. Concerns from wildlife and hydrology and fish on cumulative effect of harvesting all the units in this basin. Helicopter landing

LOG SYSTEM HE EST VOLUME/AC 36 TOT VOLUME 554-942  
UNIT DESIGN (PLANNED) will protect sensitive wet

PHOTO INFO: YR 1976 FLT LN 38 STEREO PR 276-96/95

1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



LEGEND

--- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
||||| BUFFER ZONE  
○ LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD  
305  
H

EXISTING ROAD  
---  
PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS Partial cut unit with small (3-5 ac.) group selection. Cut 20% to 34% of acres with small clearcuts. Plant cut areas to ensure adequate restocking. Site productivity is high with an average site index of 99 (Fair). Plant species is Sitka Spruce. Predominate plant association is Sitka Spruce blueberry/decks club. Richard R. Zaborie 2/17/91

## TIMBER &amp; LOGGING

SYSTEMS log unit. Fly timber to landing in unit 508. Directionally fall timber away from stream buffers and lake buffers.

name: Richard R. Zaborie

ROADS & ACCESS RESOURCE CONCERNS: LANDING IS AT END OF ROAD 7538 IN UNIT 508. date: 2/17/91

name: J. Lutz

FISHERIES & HYDROLOGY RESOURCE CONCERNS: There is an existing stream channel. Allow for 75 ft buffers around stream in places of unstable alluvial areas. Partial cut possible, regeneration may be a problem due to active unimproved alluvial channels and their associated movement. Field review recommended. Name to be out name: Richard R. Zaborie (Class 2) date: 2/14/90

## SOILS:

Resource CONCERNS: and class 2 stream in unit maintain 100' buffer on lake and 75' on stream. Varying operations used to occur during low rainfall period 1985-1990. Some soils are not saturated. Regeneration problem due to highly likely with soil disturbance. Name: J. Lutz date: 2/14/91

## WILDLIFE:

Resource CONCERNS: Unique volume class 6 riparian stand in this VCU. High value DWF, Brown Bear, Goose habitat.

## name: M. J. Weber

RECREATION & VISUAL: date: 2/11/91

## CULTURAL:

Resource CONCERNS: Recommend a 300' buffer both the lake and unit. Review from the northern boundary of the unit on potential trail clearing. Name to be out name: Richard R. Zaborie date: 2/17/90

## name:

Reviewed By: Due to group selection harvest 300' buffer from lake is not mandatory. 100' buffer will meet intent of unit design. Name: S. Burn Bueyarski date: 2/15/91

## title:

Interdisciplinary Team Leader date: 2/15/91



## UNIT DESIGN CARD

UNIT # 535 ACRES 86

STATEMENT OF INTENT BY IDT:  
Keep 75' from class II stream along west boundary. Do not harvest side slopes of V-notch in central portion of unit. Directionally fell timber away from this notch. Do not extend unit to north to maintain wildlife travel corridor. Do not harvest in side slopes of V-notch along southwest boundary. This means fish concern and wildlife needs for travel corridor.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 2150

PHOTO INFO: YR 1976 FLT LN 38 STEREO PR 226-96/95  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

--- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
||||| BUFFER ZONE  
① LANDING

UNIT BOUNDARY, NUMBER  
+ LOGGING METHOD305  
H

--- EXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS Cleared unit. Prodominate plant series pine western hemlock and mixed conifer. Western hemlock areas should regenerate naturally. Consider planting mixed conifer areas to slash-cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 84 (Fair). If possible, retain 3 snags per acre for diversity.

## TIMBER &amp; LOGGING

SYSTEMS Directionally fall timber away from V-notch in unit and away from stream along southwest boundary.

name: Richard R. Zelenkadate: 2/17/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: LANDING IS AT THE END ROAD #2538 IN UNIT 508.

name: Robertdate: 10/23/90

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: WATER Cuts IN V-NOTCH AREA. UNIT STAYS LOGGING. IN DEEPER MUSKIE CREEK SIDE. V-NOTCH. FELLING. TRIPS WITH DEEPER V-NOTCH. V-NOTCH. SEDIMENT DELIVERY POTENTIAL TO CHANNEL. DRAINAGE FROM V-NOTCH. CLASS 2. Active in unit. Boundary. PULLING BACK 75' TO PROTECT CHANNEL. V-NOTCH. V-NOTCH.

name: D. Kellumdate: 8/14/90

## SOILS:

RESOURCE CONCERNS: 360' yard V-notch. No soil concerns.

name: Robertdate: 2/2/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of Lowland Moderate DWF.

name: M.T. Weberdate: 2/1/91

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS: NEW CONSTRUCTION. 100' x 100' from potential timber stand. 100' x 100' from potential timber stand. 100' x 100' from potential timber stand. 100' x 100' from potential timber stand.

name: Richard R. Zelenkadate: 2/27/90

## CULTURAL:

RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

title: \_\_\_\_\_

Interdisciplinary Team Leader

date: 2/15/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 600 ACRES 81

STATEMENT OF INTENT BY IDT: Concerns this unit for leaving a beach fringe for visual and wildlife habitat. Could not be met through unit redesign due to ponding areas and loggability. Buffers necessary. eagle trees will be mapped & protected. Effects will be displayed in the EIS.

LOG SYSTEM H UNIT DESIGN (PLANNED)

EST VOLUME/AC 25 TOT VOLUME 2025

PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-82481

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ① BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit. Predominate plant series are western hemlock and Sitka spruce. Sitka spruce areas are prescribed for hand planning of spruce to ensure adequate restocking. Western hemlock areas should regenerate naturally. Site productivity ranges from moderate to high with an average site index of 92. Consider stand for precommercial thinning in 20-25 years. If possible, maintain 2 snags per acre for diversity. Richard R. Zeleny 2/6/91

## TIMBER &amp; LOGGING

## SYSTEMS

highlead logging, both up and down hill. Keep buckline below extreme hazard zone. Tailholde may be a problem at places along buckline. Additional landings may be needed to log area below route due to terrain.

name: Richard R. Zeleny

date: 2/1/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: A ROAD NOT CAN BE LOCATED NEAR THE LITE. ACCESSED BY ROAD 7567.

## name:

date: 2/1/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: No fisheries concerns V. J. Stouffer 8-10-90

No hydrology concerns. S. J. Paine 8-10-90

## name:

date:

## SOILS:

RESOURCE CONCERNS:

No soils concerns

## name:

date: 2/1/91

## WILDLIFE:

RESOURCE CONCERNS: There are Seagull trees in this unit. 80% of unit is within beach fringe habitat. Unit is high value deer winter range.

name: Michael J. Weber

RECREATION & -RESOURCE CONCERNS:

date: 8/10/90

## VISUAL:

see Research Design for Probability Area

The site is adjacent to units on the north and south. Recommendation of 200-300' buffer. Change from 300' to 200'. Change for condition. Thinning to 200' by 2000. Name: Richard R. Zeleny 2/6/91

## CULTURAL:

RESOURCE CONCERNS:

see Research Design for Probability Area

name: M. J. Weber

date: 8/10/90

Reviewed By:

James S. Burns Bayanaki

Interdisciplinary Team Leader

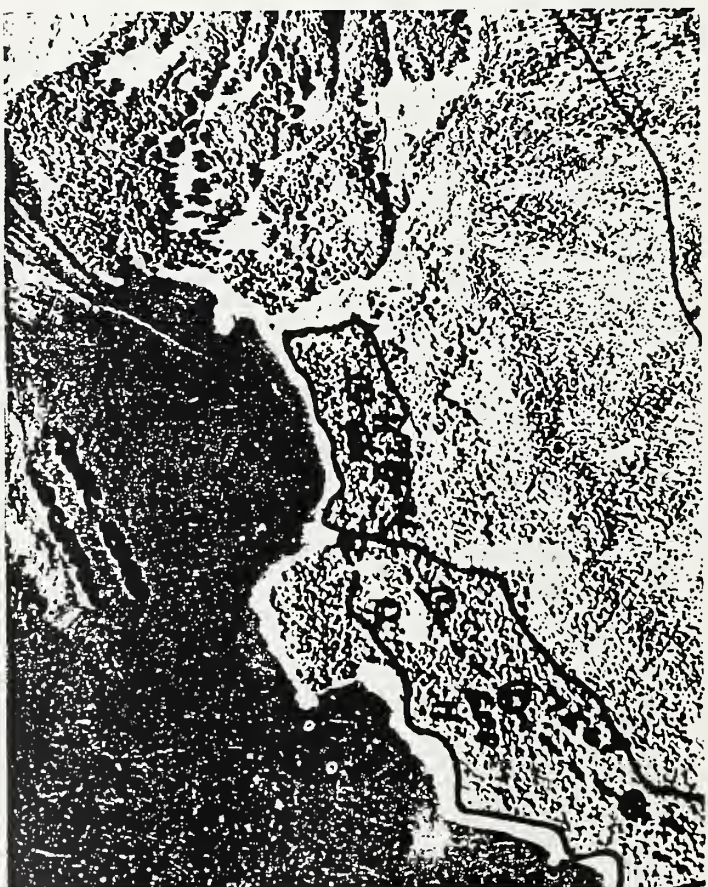
date: 2/11/91

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## UNIT DESIGN CARD

UNIT # 601 ACRES 17

STATEMENT OF INTENT BY IDT: Resource concerns related to back fringe habitat, and second pt. for visual resources cannot be fully satisfied by kind redesign due to concern to LTF + road design. Potential redesign intent is to road off NE corner to avoid straight line and tie west bdy into backfringe. Efforts will be underway in E-UNIT DESIGN (PLANNED)		SILVICULTURE Rx SYNOPSIS Cleared unit and hand plant with Sitka spruce to ensure adequate restocking and to maintain current species composition. Site productivity ranges from moderate to high with an average site index of 98. Monitor stand and consider for precommercial thinning in approximately 20 years. If possible, retain 2 snags per acre for diversity. Richard R. Zaborak 2/11/91	
LOG SYSTEM <u>H</u>	EST VOLUME/AC <u>25</u>	TOT VOLUME <u>425</u>	TIMBER & LOGGING SYSTEMS Resource concerns: Unit designed for highland logging both up and down hill. Keep backline below extreme hazard soils and steep slopes. Tailhold's could be a problem in places along backline. Directionally fall timber away from name: Richard R. Zaborak date: 2/7/91
PHOTO INFO: YR <u>1984</u> FLT LN <u>46</u>	STEREO PR <u>284-82/81</u>	ROAD FROM 7567	
1/4 QUAD ID:	PLANNED (ORTHO PHOTO)	SCALE: <u>1:12,000</u>	ROADS & ACCESS RESOURCE CONCERNS: Accessed by a temporary
		name: <u>J. Zaborak</u> date: <u>2/11/91</u>	
		FISHERIES & HYDROLOGY RESOURCE CONCERNS: No fisheries concerns U.G. Structures 0-10-90 No hydrology concerns. Shrub Pinus Lin 8-10-90	
		name: <u>Soils Concerns</u> date: <u>9/21/90</u>	
		WILDLIFE: RESOURCE CONCERNS: Entire unit is within back fringe habitat and high value deer winter range. With unit 600 over a mile of beach fringe habitat will be lost. name: <u>Michael J. Weber</u> date: <u>8/10/90</u>	
		RECREATION & VISUAL: RESOURCE CONCERNS: Rec. Site 800' from E. boundary of unit. Recommend buffering back 100-300' from back area for visual recreation purpose. Long 200' COS + name: <u>Load design in the future</u> date: <u>MBN 9/10/90</u>	
CULTURAL: RESOURCE CONCERNS: See Research Design for Probability Area name: <u>H. J. J. J. J. J.</u> date: <u>8/24/90</u>		Reviewed By:	
LEGEND CLASS I STREAM CLASS II STREAM CLASS III STREAM BUFFER ZONE LANDING		UNIT BOUNDARY, NUMBER, + LOGGING METHOD <u>305</u> <u>H</u> EXISTING ROAD PLANNED ROAD	
title: <u>James S. Burns Bay Area</u>		Interdisciplinary Team Leader date: <u>2/11/91</u>	

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## UNIT DESIGN CARD

UNIT # **619** ACRES **35**

STATEMENT OF INTENT BY IDT: To maintain a buffer along north-  
 bely close to water hole used by Denervation to upper Muttons hole.  
 should the hole be used to enhance natural appearance, lower  
 section of unit dropped as it fell into overtopping, shallow creek.  
 Pulling by up hill, lower risk of sediment's more, and washing  
 into estuary and mountains. Beach, large habitat.

LOG SYSTEM he EST VOLUME/AC 13 TOT VOLUME 455

PHOTO INFO: YR 1976 FLT LN 39A STEREO PR 276-143/144

1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

305  
 H

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
 RX SYNOPSIS  
 Clearcut unit with natural regeneration. Site protecting  
 ranges from low to moderate with an average size  
 index of 60. Predominant plant series are western hemlock and  
 mountain hemlock. Predominant plant associations are western hemlock  
 blueberry and mountain hemlock/blueberry. If possible, retain 2  
 snags per acre for diversity.

TIMBER & LOGGING  
 SYSTEMS  
 Resource CONCERNS: No road access so helicopter  
 yard unit, fly logs to sort yard at LTF.  
 Directionally fall timber away from V-meches in unit and away from  
 brush field along northern boundary.

name: Richard R. Ziegler date: 2/17/91

ROADS & ACCESS  
 Resource CONCERNS: The sort yard area  
 AT THE EAST END OF UNIT 621 IS THE ALBERT RANGERS  
 FOR THE LOGS TO.

name: Richard R. Ziegler date: 2/17/91

FISHERIES &  
 HYDROLOGY  
 Resource CONCERNS:  
 No fisheries concerns of Southern B-10-90

name: Richard R. Ziegler date: 8-10-90

SOILS:  
 Resource CONCERNS:  
 Field suspension, rock, on average 51.40 A.D.E. 50.00

name: R. Ziegler date: 9/21/90

WILDLIFE:  
 Resource CONCERNS: Loss of mature volume deer  
 winter range. Unit boundary stays 500 feet from the shoreline  
 providing a beach fringe buffer.

name: Michael J. Weber date: 8/10/90

RECREATION &  
 RESOURCE CONCERNS:

VISUAL:

CULTURAL:  
 Resource CONCERNS:  
 The site is located 500' from the N. end  
 of the unit. It is a natural site. It is a natural site. It is a natural site.

Resource Design for Crater Lake Area

name: Richard R. Ziegler date: 8/24/90

Reviewed By:

John S. Burns Designator

Interdisciplinary Team Leader

date: 2/11/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 620 ACRES 24

STATEMENT OF INTENT BY IDT: Unit design provides protection for low elevation experience along shore line. Tie with unit help into brush field and dropped overstepped, rocks in stream. To make unit appear more natural and avoid man made looking beyond. Helicopter parking would have least impact on unit & log system.

LOG SYSTEM HE UNIT DESIGN (PLANNED) reduces and detailed EST VOLUME/AC 13 TOT VOLUME 312

PHOTO INFO: YR 1976 FLT LN 39A STEREO PR 276-143/144  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15840



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- (L) LANDING

(305 H) UNIT BOUNDARY, NUMBER, + LOGGING METHOD

--- EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE Rx SYNOPSIS Clearcut unit with natural regeneration. Site productivity ranges from low to moderate with an average site index of 82. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/devils club. If possible, retain 2 snags per acre for diversity.

TIMBER & LOGGING SYSTEMS RESOURCE CONCERNS: No road access so helicopter yard unit. Fly logs to saw yard at LFF. Directionally fall timber away from brush field along northwest boundary.

name: Richard R. Zaborie date: 2/7/91  
ROADS & ACCESS RESOURCE CONCERNS: UTILITY SIGHTED ON EAST END OF UNIT 621 TO FLT LOGS TO.

name: A. Cant date: 2/14/91  
FISHERIES & HYDROLOGY RESOURCE CONCERNS: No fisheries concerns v. Stauffer 8-10-90  
No hydro/water quality concerns.

name: Steve Paulsen date: 8-10-90  
SOILS: RESOURCE CONCERNS: Ample ground for mass waste to 413 and soil's required full suspension to reduce loss of soil productivity.  
name: Eric Best date: 8/2/90  
WILDLIFE: RESOURCE CONCERNS: Loss of low and high value deer winter range. Unit is up out of the beach fringe.

name: Michael J. Weber date: 8/10/90  
RECREATION & VISUAL: RESOURCE CONCERNS:

CULTURAL: RESOURCE CONCERNS: This unit is 1700' from a state site, a potential threat to the unit's character. Name: Richard R. Zaborie date: 11/13/90

name: Richard R. Zaborie date: 8/24/90  
Reviewed By:

title: James S. Burns Bryanaki date: 2/11/91  
Interdisciplinary Team Leader

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## UNIT DESIGN CARD

UNIT # 621

ACRES 61

STATEMENT OF INTENT BY IDT: maintain 1000' buffer along estuary, drop dead cutting. This will allow birds to unit from estuary, avoid plus protect beach fringe habitat and buffer stream in SE corner. As designed, no recovery concerns from soil erosion, slope below on N side. Under between Unit 621 & 622.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1525PHOTO INFO: YR 1976 FLT LN 39A STEREO PR 276-143/144

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE Clearcut unit with natural regeneration.  
RX SYNOPSIS Predominant plant species, is western hemlock, with some inclusions of Sitka spruce. Predominant plant associations are western hemlock/blueberry and western hemlock/blechnum/shrub cabbage. Site productivity ranges from moderate to high with an average site index of 82. If possible, retain 2 spruces per acre for diversity. Richard R. Ziegler 2/11/91

TIMBER & LOGGING RESOURCE CONCERNS: Unit designed for highland logging, both up and downhill. Keep backline below steep slopes. Additional landings may be needed to yard area below road. Split yard boundaries in unit, diversify fall timber away name: Richard R. Ziegler date: 2/17/91

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 7575. A temporary road will be added to reach the southern portion of the unit.

name: Unit date: 2/11/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS: SE portion of unit boundary pulled back to protect Class I stream. V. Stevens 8-10-92  
Possible unpaired Class III stream on the boundary between unit 621 & 622. Try to split unit boundary along these riparian.

name: Stream date: 8-10-92

SOILS: no soils on unit RESOURCE CONCERNS:

name: R. Ales date: 8/10/90

WILDLIFE: RESOURCE CONCERNS: Loss of moderate and high value deer winter range. Boundary stays 1000 feet from the estuary and 500 feet from the beach.

name: Michael J. Weber date: 8/10/90

RECREATION & VISUAL: RESOURCE CONCERNS:

name: Michael J. Weber date: 8/10/90

CULTURAL: RESOURCE CONCERNS:

name: Michael J. Weber date: 8/10/90

name: Michael J. Weber date: 8/10/90

name: Michael J. Weber date: 8/10/90

name: Michael J. Weber date: 8/10/90

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name: Michael J. Weber date: 8/10/90

name: Michael J. Weber date: 8/10/90

name: Michael J. Weber date: 8/10/90

Interdisciplinary Team Leader

title:

date: 2/11/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 622

ACRES 43

STATEMENT OF INTENT BY IDT: See comments on Unit 621. dropped small wind on east end. To protect existing forest & brush change habitat. Unit bdy to north is along trail & landing. To the south bdy steps at slope bench approx 300' above stream and potential recreation trail. Suspension of logs and UNIT DESIGN (PLANNED) drawings and details.

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1075

PHOTO INFO: YR 1976 FLT LN 39A STEREO PR 276-143/144

1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (D) LANDING
- UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H
- EXISTING ROAD  
 PLANNED ROAD  
 ---

SILVICULTURE  
RX SYNOPSIS

Clearecut unit with natural regeneration. Site productivity is moderate with a site index of 76 (Fair). Predominant plant series is western hemlock with some inclusions of mixed conifers. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/skunk cabbage. If possible, retain 2 snags per acre for diversity. Richard R. Zelenka 2/16/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for uphill yarding with live skyline/flyer systems. Partial or full log suspension required to avoid detrimental effects to board soils. Spur road needed to a lower landing to yard lower portion of unit. Keep trees out of V-notch along boundary with unit 621. name: Richard R. Zelenka date: 2/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNITS ACCESSED OFF OF ROAD 7575 BY TWO TEMPORARY SPURS, GOOD POSSIBILITY OF ROCK PITS LOCATED ON TEMPORARY ROAD BETWEEN UNITS 621 AND 622 name: J. Lutz date: 2/11/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: No fisheries concerns U. Stauffer 8-10-90 Potential unmarked Class III along unit boundary with unit 621. Try to split unit along this stream.

name: Steven P. Overton

SOILS: RESOURCE CONCERNS: date: 8-10-90

name: R. A. Wolf

WILDLIFE: RESOURCE CONCERNS: Loss of low and high value deer winter range but unit provides a 1000 foot buffer to the estuary and high value bear habitat. date: 1/21/90

name: Michael J. Weber

RECREATION & RESOURCE CONCERNS: date: 8/10/90

name: Michael J. Weber

VISUAL: RESOURCE CONCERNS: date: 8/10/90

name: Michael J. Weber

RECREATION & RESOURCE CONCERNS: date: 8/10/90

name: Michael J. Weber

RECREATION & RESOURCE CONCERNS: date: 8/10/90

name: Michael J. Weber

RECREATION & RESOURCE CONCERNS: date: 8/10/90

name: Michael J. Weber

RECREATION & RESOURCE CONCERNS: date: 8/10/90

name: Michael J. Weber

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name: Michael J. Weber

RECREATION & RESOURCE CONCERNS: date: 8/10/90

name: Michael J. Weber

RECREATION & RESOURCE CONCERNS: date: 8/10/90

name: Michael J. Weber

RECREATION & RESOURCE CONCERNS: date: 8/10/90



## UNIT DESIGN CARD

UNIT # 624 ACRES 42

## STATEMENT OF INTENT BY IDT:

Unit is adjacent to Unit 630 on the west boundary. East boundary at current location to provide for wildlife travel corridor. There is a small slide in NE portion of unit. Locate landings so the area behind the slide can be yarded.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 1050PHOTO INFO: YR 1976 FLT LN 39A STEREO PR 276-143/144

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

- CLASS I STREAM  
 ..... CLASS II STREAM  
 .... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
--- PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominate plant service are western hemlock and Sitka spruce. Consider planting Sitka spruce trees with space to ensure adequate spacing. Predominate plant associations are western hemlock/blueberry and Sitka spruce/blackberry/leaves club. Site productivity ranges from moderate to high with an average site index of 79 (Fair). It is possible to retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

RESOURCE CONCERNS: Unit designed for downhill

## SYSTEMS

Yarding with a skyline system one end log suspension needed to protect hazard soils. Backline may need to be lowered to avoid blindleads. Directionally fall timber away from name: Reflood R. Zaborak south boundaries date: 2/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT IS ACCESSED BY ROAD 7575 AND A TEMPORARY ROAD TO THE WEST WHICH GOES IN TO UNIT 630. NO CONCERNS.

## name:

date: 2/11/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: Unit boundary pulled back to protect Class I stream by Steenshen 8-10-90

No water quality concerns.

## name:

date: 8/10/90

## SOILS:

RESOURCE CONCERNS: Historic slashpiles are not visible. Tree suppression required to reduce impacts at high hazard and name: R. Zaborak date: 9/21/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of mature value deer winter range. Leaves good corridor between other units.

## name:

date: 8/10/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

## name:

date: 9/13/90

## CULTURAL:

RESOURCE CONCERNS: This unit is 1300' from a residential area

See Research Design for Observability Area name: J. Zaborak

date: 8/24/90

Reviewed By: Logging system could not achieve full suspension. One unit by suspension is feasible. Effects tracked in EIS.

title: J. Zaborak Interdisciplinary Team Leader date: 4/11/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # **630** ACRES **46**

STATEMENT OF INTENT BY IDT:  
 Northern boundary pulled down below extreme soil hazard area. South boundary is 300' from the river. Temp. spur will be needed to get to eastern most landing. Just below the extreme soil area is an area of high soil hazard. This area needs soil scientist field review and may have to be cleared from unit if there is a potential for mass wasting into Clear River.

## UNIT DESIGN (PLANNED)

LOG SYSTEM **H** EST VOLUME/AC **25** TOT VOLUME **1150**
 PHOTO INFO: YR **1976** FLT LN **39** STEREO PR **276-74/75**  
 1/4 QUAD ID:
PLANNED (ORTHO PHOTO) SCALE: **1:15840**

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

 UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
**305**  
**H**

 EXISTING ROAD  
 PLANNED ROAD  
 ---
SILVICULTURE  
RX SYNOPSIS

Clearcut unit with natural regeneration. Site productivity is moderate with an average site index of 77 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/skunk cabbage. If possible, retain 2 snags per acre for diversity.

Richard R. Zolovick 2/16/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for highhead logging, both up and downhill. Keep backline out of extreme hazard soils. Tailholds may be a problem in north-west corner of unit, directionally fall timber away from opening name: Richard R. Zolovick date: 2/17/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY TWO TEMPORARY SPURS OFF OF ROAD 7575. ROAD GRADES ON WEST END OF TEMP SPUR IN UNIT TO REDUCE SOILS IMPACT name: Richard R. Zolovick date: 2/17/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: S.E. Boundary pulled back to protect Class 1 Channels, 8-10 190

Potential Abigail may be waiting beyond and high sediment delivery potential to Class 1 stream. Name: Richard R. Zolovick date: 2/17/91

## SOILS:

RESOURCE CONCERNS: Unit can be cut 1/3 of unit requires soils review before release. 50.1

Name: Richard R. Zolovick date: 2/17/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate and high value deer winter range, 200 foot corridor along Clear River will provide wildlife travel corridor.

Name: Michael Tulebea date: 8/10/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

Future development and logging. Potential for logging and logging. Name: Richard R. Zolovick date: 2/17/91

## CULTURAL:

RESOURCE CONCERNS:

See Research Design for Gravitational Area

Name: Richard R. Zolovick date: 2/17/91

Reviewed By: Note noted for snags review in forest and potential change to unit after review is complete.

James S. Burns Bugerski

title:

Interdisciplinary Team Leader

date: 2/17/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 631

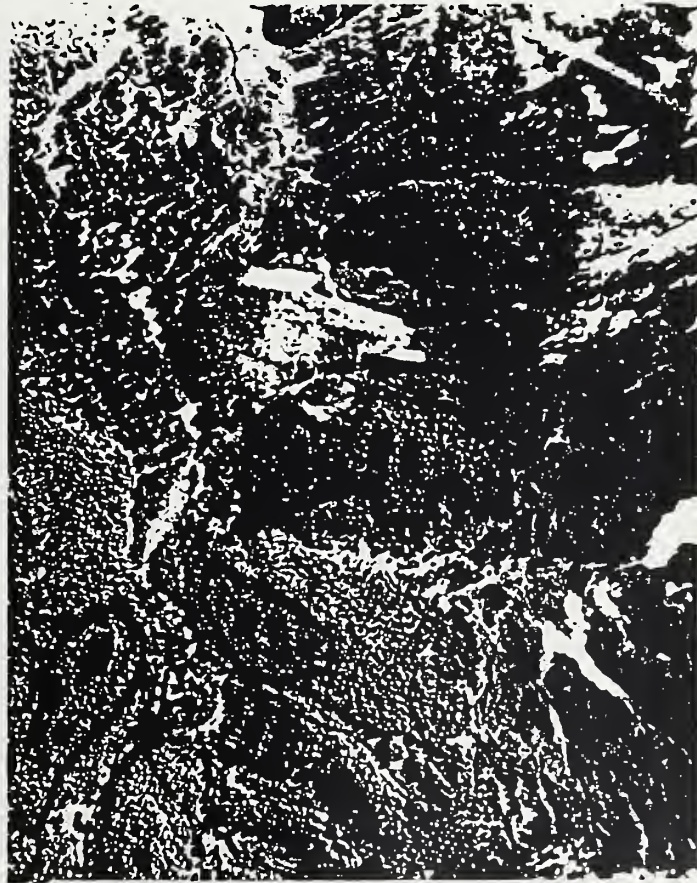
ACRES 10

STATEMENT OF INTENT BY IDT: Design of unit reflects public land boundary up to break where Class III stream and Class I stream are in proximity. 100' buffer zone protected water quality. Boundary at half of unit is 300' or more from stream to provide buffer for public land. Land to water will marked in place. Do not cross bushy field and note on east boundary this stays out of extreme hazard zone and does not cross boundary.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 250PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-74/73

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:15,000

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (D) LANDING
- UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleaver unit with natural regeneration. Site productivity is high with an average site index of 100 (Fair). Consider unit for precommercial thinning in 20-25 years. Predominate plant series is western hemlock. Predominate plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. It is possible to retain 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

RESOURCE CONCERNS: Unit designed for downhill

## SYSTEMS

highlead logging. Keep west boundary at

## SLOPE

break at class III stream, functionally fall timber away from

## THIS SLOPE

break

name: Robert R. Zylowdate: 2/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD

## 75253

NO. CONCERNS.

## name:

date: 2/4/91

## FISHERIES &amp;

RESOURCE CONCERNS: high

## HYDROLOGY

Western boundary pulled to maintain

## Class I and quality of forest to 8-10-90

Class III stream is located along west and boundary.

## This same line from boundary to edge break to maintain

potential stream. Potential logging Class I road

name: Robert R. Zylowdate: 8-10-90

## SOILS:

RESOURCE CONCERNS: high

## FERTILITY

Resource concerns: high

## WILDLIFE:

Resource concerns: high

## WINTER RANGE

Resource concerns: highname: Robert R. Zylowdate: 9/2/90

## RECREATION &amp;

RESOURCE CONCERNS: high

## VISUAL:

Resource concerns: highname: Robert R. Zylowdate: 8/10/90

## CULTURAL:

Resource concerns: highname: Robert R. Zylowdate: 8/10/90



UNIT # 632

ACRES 23

STATEMENT OF INTENT BY IDT: SW corner pulled to top of bank  
change class III cleared to protect water quality and to prevent  
mass and erosion of bank. Class II area investigated, slopes:

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 299PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-74/73  
1/4 QUAD ID:PLANNED (ORTHO PHOTO) SCALE: 1:15840

## LEGEND

- CLASS I STREAM  
 - - - CLASS II STREAM  
 ||||| CLASS III STREAM  
 (L) BUFFER ZONE  
 --- LANDING

305  
H  
UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS

Clearcut unit with natural regeneration. Site  
productivity ranges from moderate to high with an  
average site index of 89. Predominant plant species is western  
hemlock. Predominant plant associations are western hemlock/  
blueberry/shield fern and western hemlock/blueberry/decks club (M,WD)  
If possible, retain 2 snags per acre for diversity. Richard & Zofensky 2/16/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: No road access so  
helicopter yard unit. Fly volume downhill  
to landing in unit 631. Divergentially fall timber away from  
openings along northern boundary.  
name: Richard R. Zofensky date: 2/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: 17/1612E and 17/1612F  
landings in unit 631 to fly the logs to.

## name:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:  
No fisheries concerns VGS 8-10-90  
Class II stream along west boundary. Unit boundary  
to be located back from slope break into the  
stream gorge. name: Steven J. Paustian date: 8-10-90

## SOILS:

RESOURCE CONCERNS:  
Soil surveys are required on any log & snag unit.  
Gravel more than maximum buffer to stream  
name: Robert J. Paustian date: 9/1/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of low and moderate  
value deer winter range.

## name: Michael Tweeber

RECREATION &  
VISUAL:

RESOURCE CONCERNS:  
date: 8/10/90

Rec. Site 1000' from NW Corner Skunt.

19025 inventories.  
name:

## CULTURAL:

RESOURCE CONCERNS:  
Change to Roadless  
date: MAY 9/14/90

Dr. Osborn Design for Graveling Area

## name: M. Kinnear

## Reviewed By:

date: 8/24/90

James S. Burns Baymaker

## title:

Interdisciplinary Team Leader

date: 2/11/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # 633

ACRES 18

STATEMENT OF INTENT BY IDT: Unit designed to provide a minimum of ice buffer for Class I boundary units by following back stream river, protecting water quality and also providing wildlife travel corridor along the river. Side channel unit provided extra buffer and they offer a bluff, unit body provides protection to potential spot fishing recreation opportunity.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 450PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-7473

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
 ---  
 PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleaver unit with natural regeneration. Site productivity is moderate with an average size index of 76. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/skunk cabbage. If possible, retain 2 Snags per acre for diversity.

Richard R. Zuberke 2/16/91

## TIMBER &amp; LOGGING

## SYSTEMS

RESOURCE CONCERNS: Unit designed for lambkill highlead logging. An additional landing may be needed to log eastern portion of unit. Do not fall timber into stream buffers.

name: Richard R. Zuberke date: 2/17/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75753. SNOWS AND HYDROLOGY TO 35 IN WINTER IN 1990 AND DESIGN.

name: R. Zuberke date: 2/14/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: N.W. boundary pulled back to protect unmapped, Class I channels. 08-8-10-90. Point to minimum 200 ft buffer along stream signature areas, as other hydrology concerns.

name: Steve J. Tanton date: 8/10/90

## SOILS:

RESOURCE CONCERNS: Soil unit includes ~~some~~ forest of various deciduous and conifer forests

name: Rebecka date: 9/21/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of moderate deer winter range. Unit boundary 200 feet from the river provides a wildlife corridor along the river.

name: Michael J. Weber date: 8/16/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS: Rec site 600' from NE boundary of unit. Recommended stream buffer for protection of sports fisheries.

date: MAR 9/12/90

## CULTURAL:

RESOURCE CONCERNS:

see Research Design for Probability Area

name: A. G. Gammuto date: 3/24/90

## Reviewed By:

James S. Burns, Designator

Interdisciplinary Team Leader

date: 2/11/91

title:

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## UNIT DESIGN CARD

UNIT # 634 ACRES 7

STATEMENT OF INTENT BY IDT: Another boundary designed to be a break above boundary channels to provide a buffer and Class I stream-class river. Top boundary topped to avoid area of overdeveloped area or subject to measurement.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 175

PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-74/23  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

305  
 H  
 UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD

EXISTING ROAD  
 PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Preliminary plan series are western hemlock and Sitka spruce. Consider Sitka spruce areas for hand planting of spruce to ensure adequate restocking. western hemlock areas should regenerate naturally. Site productivity ranges from moderate to high with an average site index of 89. Retain 2 snags per acre, if possible, for diversity.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for downhill highhead logging. Talloids may be a problem in southwest corner of unit. Keep east boundary as slope break of V-notch, directionally fall timber away from this notch and away from name: Pudlak R. Zalsky opening along West boundary. date: 2/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY ROAD 75753. SOILS AND HYDROLOGY TO BE INVOLVED IN ROAD LOCATION AND DESIGN.

## name:

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

name: Pudlak R. Zalsky date: 2/7/91  
 northern boundary pulled back to protect unlogged, Class I channels 0.500-40 maintain minimum 100' ft. buffer from riparian area along Class I tributary (B35).  
 name: Steve T. Weber date: 8-10-90

## SOILS:

## RESOURCE CONCERNS:

no soils concerns

## name:

## WILDLIFE:

## RESOURCE CONCERNS:

name: Pudlak R. Zalsky date: 8/2/90  
 loss of moderate value deer winter range.

## name:

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

name: Michael J. Weber date: 8/2/90

## CULTURAL:

## RESOURCE CONCERNS:

name: Pudlak R. Zalsky date: 2/7/91  
 boundary design for productivity area

## name:

## Reviewed By:

name: P. Zalsky date: 8/2/90

## title:

Interdisciplinary Team Leader

date: 2/7/91

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## UNIT DESIGN CARD

UNIT # 635 ACRES 9

ACRES 9

STATEMENT OF INTENT BY IDT: Ecuador - Government has agreed to extend right to subsoil to mean and interesting parties, bottom boundary will stop on break above which will be used to provide 50' buffer and protect water quality. One and half year response needed when possible.

UNIT DESIGN (PLANNED)

LOG SYSTEM	EST VOLUME/AC	TOT VOLUME
A	25	225

PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-74/23  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

**SILVICULTURE  
Rx SYNOPSIS**

Rx SYNOPSIS Productivity is moderate with an average fire index of 76 (Fair). Predominate plant series is western hemlock. Predominate plant associations are western hemlock/blueberry and western hemlock/blueberry/shunk cabbage. Retain 2 snags per acre if possible for diversity. Reland 2 February 2019

## TIMBER & LOGGING SYSTEMS

TIMBER & LOGGING SYSTEMS	<p>along buckline backline way need to be dropped down some. Do not call timber into same buffers.</p> <p>RESOURCE CONCERNS: Unit designed for downhill nightshift logging. Tailhacks could be a problem.</p>
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name: Richard A. Zuker

date: 21.7.91

ROADS & ACCESS  
TEMPORARY  
143000000.00

ROADS & ACCESS RESOURCE CONCERNS: UNIT ACCESSED BY A TEMPORARY SPUR OFF OF ROAD 75753, 50125 AND IMMEDIATELY TO BE INVOLVED IN ROAD LAYOUT.

**name:**

FISHERIES &	RESOURCE CONCERNS:
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FISHERIES & HYDROLOGY	RESOURCE CONCERNS: no furberis concerns V.G. Storoosthus 10-9-82 must be kept for the future Class. III
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I notice video tapes containing information  
of potential concern with access road see comments and 15:35

name: Steven J. Bassett 8-16-90 date:

SOILS:	RESOURCE CONCERNS:
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SOILS:	RESOURCE CONCERNS:
	no soils concerns

name: R. W. Lee

date: 3/11/91

**WILDLIFE:**

WILDLIFE:   RESOURCE CONCERNS: Less of moderate value deer-winter range.

name: Michael T. Weber

date: 8/10/90

## RECREATION &

**RESOURCE CONCERNS:**

**VISUAL:**

Potential (no. + Ex) = 0.9  
The area has been established before. The  
name is not yet determined. The date is 9/12/80.

CULTURAL:	RESOURCE CONCERNS:
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App Research Design for Probability Area

name: *St. Lawrence*

date: 21 Jul/4v

Reviewed By:

James S. Diamond Bayne

### Interdisciplinary Team Leader

date: 2/11/91

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## UNIT DESIGN CARD

UNIT # 636 ACRES 24

STATEMENT OF INTENT BY IDT: Unit designated to stop on benches above Class III channel to protect winter productivity. No new more resource concerns noted at times up unit design. Helicopter grading will manage soil disturbance on overstepped slope.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 600PHOTO INFO: YR 1976 FLT LN 39 STEREO PR 276-74/73

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:15840

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROADSILVICULTURE  
RX SYNOPSIS

Clearcut unit with natural regeneration. Site productivity is low to moderate with an average site index of 75. Predominate plant series is western hemlock. Predominate plant associations are western hemlock/blueberry and western hemlock/blueberry/sunk cabbage. If possible, retain 2 snags per acre for diversity.

Richard R. Zabriskie 2/6/91

## TIMBER &amp; LOGGING

SYSTEMS  
in unit 635. Directionally fall timber away from opening along west boundary.

name: Richard R. Zabriskie date: 2/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESSED BY A TEMPORARY SPUR OFF OF ROAD 75733. VOICES AND HUMANITY TO BE INVOLVED IN LAYOUT.

## name:

date: 2/4/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:  
No fisherie concerns V.G. Stewensen 8-10-90  
North unit boundary as planned is above V-noted-  
side slope bank. This minimizing water quantity  
concern for this unit. See road concern 10/5/75

name: Steve J. Tait date: 8-10-90

## SOILS:

RESOURCE CONCERNS:  
Help suspension required on current proposed slopes

name: R. Weber date: 9/2/90

## WILDLIFE:

RESOURCE CONCERNS: Loss of low & moderate deer-winter range

name: Michael J. Weber date: 8/2/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

## CULTURAL:

RESOURCE CONCERNS:  
General Kingsley has been proposed for unit  
name: James unit change to ROSA Portland, inventory date: 11/13/90

## name:

date: 8/2/90

## name:

date: 8/2/90

## name:

date: 8/2/90

## name:

date: 8/2/90

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date: 8/2/90

## name:

date: 8/2/90

## name:

date: 8/2/90

## name:

date: 8/2/90

title: Interdisciplinary Team Leader date:

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UNIT # 637

ACRES 48

STATEMENT OF INTENT BY IDT: Used design provided for a minimum of 330' buffer for 3 eagle trees along the shoreline and 2 Alaska Heritage resource sites. Unit also pulls back moose sign back to protect brown bungee habitat. The 500' area at the top of the backline has been improved with dropped and split point backline. Stream bed fringe provided buffer for riparian habitat.

LOG SYSTEM ~~W/OUT~~ EST VOLUME/AC 25 TOT VOLUME 1200

PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-24/83  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
H

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clevert unit. Predominate plant series are western hemlock and mixed conifer. Consider planning mixed conifer areas to Alaska cedar to maintain current species composition. Western hemlock areas should regenerate naturally. Site productivity ranges from low to high with an average site index of 70 (Furr). If possible retain 2 snags per acre for diversity. Richard R. Zaborak 2/10/90

## TIMBER &amp; LOGGING

EXTREME hazard soils Split yard. Keep central backline out of backline may need to be moved down to avoid blind leads. Directly fall timber away from unit. Our soils also be helicopter loaded. name: Richard R. Zaborak date: 3/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: EXTENSION OF ROAD 7547. NEED TO END IN THE MIDDLE IN STEEP X-SLOPE AREA. WERE NEW CONSTRUCTION ENTERS TREES APPROX 300'

## FISHERIES &amp; HYDROLOGY

name: ~~see log~~ date: 10/25/90  
RESOURCE CONCERNS: This problem concerns V8 streamlines 8-10-90. No hydrology concerns. Stream function 8-10-90.

## name:

## date:

## SOILS:

## RESOURCE CONCERNS:

Extensive boggy soils along central backline damp but not waterlogged. SLOES and other vegetation soils. Split yard area. name: ~~see log~~ date: 10/25/90

## WILDLIFE:

## RESOURCE CONCERNS:

and high value deer winter range. Unit avoids the brushy fringe except at the NW corner. Eagle tree is on north end. name: Michael J. Weber date: 3/10/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

name: ~~see log~~ date: 10/25/90  
CULTURAL: Existing Resource site. See map on unit. name: ~~see log~~ date: 10/25/90

## RESOURCE CONCERNS:

See Research Design for Probability Area  
name: ~~see log~~ date: 10/25/90

## Reviewed By:

name: ~~see log~~ date: 10/25/90  
during log. Note to owner for soil. review of backline

name: James S. Burns Bryanaki  
title: Interdisciplinary Team Leader date: 2/11/91

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## UNIT DESIGN CARD

UNIT # 638 ACRES 18

STATEMENT OF INTENT BY IDT: No major roads, water, or other infrastructure concerns noted since if used as a road, wildlife concerns could not be anticipated through an EIS. - effects will be Chaplin in the EIS.

## UNIT DESIGN (PLANNED)

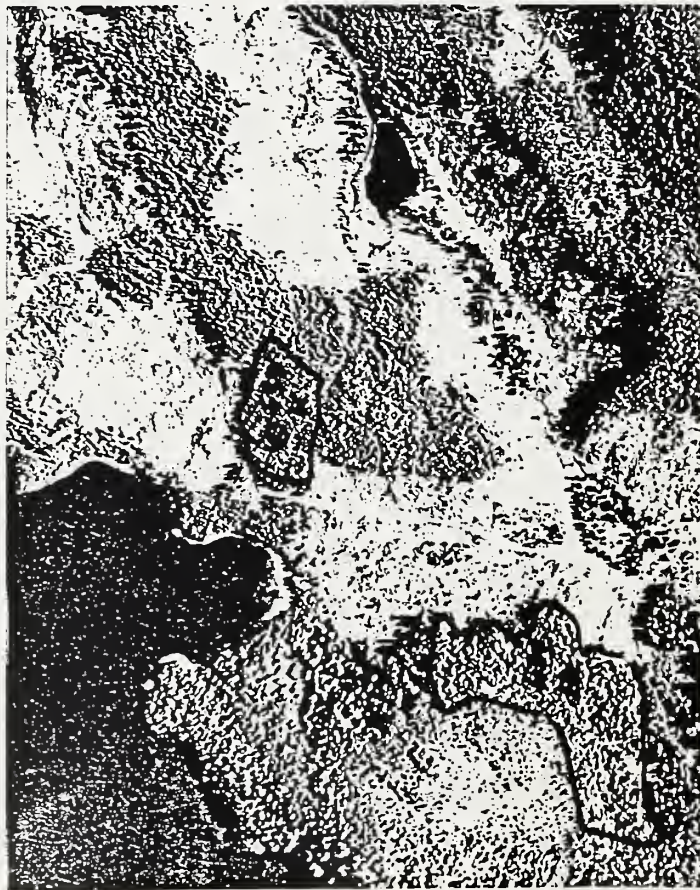
LOG SYSTEM ~~WILSON~~ EST VOLUME/AC 13 TOT VOLUME 234

PHOTO INFO: YR 1984 FLI LN 46 STEREO PR 284-3

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

- ..... CLASS I STREAM
- ..... CLASS II STREAM
- ..... CLASS III STREAM
- ||||| BUFFER ZONE
- Ⓛ LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## Rx SYNOPSIS

Clearcut unit. Predominant plant species are western hemlock and mixed conifer. Western hemlock areas should regenerate naturally but consider mixed conifer areas for thinning of alaska-cedar to maintain current species composition. Site productivity ranges from low to high with an average site index of 78 (fair). If possible, retain 2 snags per acre for diversity. 2/17/91

## TIMBER &amp; LOGGING

## SYSTEMS

RESOURCE CONCERNS: Unit designed for downhill highlead yarding. Backline may need to be dropped down some to avoid blindleads. Do not fell timber into adjacent, past harvest units.

name: Richard R. Zabriskie

date: 2/17/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: Areas will be set off as a trap since starting about at 11000 cut area. estimate 500' length

name: J. G. Galt

date: 10/15/82

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No fisheries concerns V.D. Sturges 8-10-90  
No hydrology concerns. Sturges 8-10-90

name:

date:

## SOILS:

## RESOURCE CONCERNS:

No soils concerns

name: R. Galt

date: 7/21/90

## WILDLIFE:

## RESOURCE CONCERNS:

Loss of moose habitat and the deer winter range, part of the beach fringe habitat and the only timbered area from the beach to high DWR island.

name: Michael J. Lueker

date: 8/1/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

High lead road - potential for wildlife disturbance. Loss of scenic view of beach. High lead road - potential for wildlife disturbance. Loss of scenic view of beach.

name:

date: 10/13/90

## CULTURAL:

## RESOURCE CONCERNS:

SEE RESEARCH DESIGN FOR RECREATION DATA

name: R. Galt

date: 8/24/90

Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/11/91

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## UNIT DESIGN CARD

UNIT # 639

ACRES 25

STATEMENT OF INTENT BY IDT: Unit design moved land away from beach to protect back dunes. Vasculars were removed. Also moved to avoid oversteepened slopes which could cause erosion and landslides. An additional design like dunes were not included.

## UNIT DESIGN (PLANNED)

LOG SYSTEM ~~NEZLWZ~~ EST VOLUME/AC 25 TOT VOLUME 625PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-<sup>85/8</sup>

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305)  
HEXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleave unit with natural regeneration. Site productivity ranges from low to moderate with an average site index of 71 (Fair). Predominate plant series is western hemlock. Predominate plant associations are western hemlock/blueberry and western hemlock/blueberry/dead's club. If possible, retain 2 snags per acre for diversity.

Richard R. Zabriskie 2/7/91

## TIMBER &amp; LOGGING

## SYSTEMS

RESOURCE CONCERNS: No road access so helicopter yard unit. Fly volume to a landing along road below unit. Directionally fall timber away from opening along west boundary and past harvest unit along east boundary.

name: Richard R. Zabriskie

date: 2/7/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS: Helicopter landing will be on 7" maximum diameter down the hill from unit. Maximum flight dist. 2000'

name: Richard R. Zabriskie

date: 10/15/80

## FISHERIES &amp;

## HYDROLOGY

## RESOURCE CONCERNS:

no problems concerns UG Shumacher 8-10-80  
No hydrology concerns Shumacher 8-10-80

## name:

date:

## SOILS:

## RESOURCE CONCERNS:

Low nitrogen along back line. no problems. 4-6-90  
Side low line. no problems. 4-6-90

name: Richard R. Zabriskie

date: 8/12/90

## WILDLIFE:

## RESOURCE CONCERNS:

Volume clear-cut range. Boundary shifted to protect beach fringe habitat and eagle tree site.

name: Richard R. Zabriskie

date: 8/12/90

## RECREATION &amp;

## RESOURCE CONCERNS:

## VISUAL:

no concerns. 4-6-90  
Highly visible up beach line. 4-6-90

## name:

date:

## CULTURAL:

## RESOURCE CONCERNS:

no concerns. 4-6-90  
Highly visible up beach line. 4-6-90

name: Richard R. Zabriskie

date: 2/24/90

Reviewed By:

James S. Baird Bayanaka  
Interdisciplinary Team Leader

title:

Interdisciplinary Team Leader

date: 2/24/91

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## UNIT DESIGN CARD

UNIT # 700ACRES 16

## STATEMENT OF INTENT BY IDT:

East and south boundaries at present location due to musky and poor timber. Landings needed on both sides of U-notch for split yarding away from it. Present size and shape desirable from visual standpoint. Wet soils in unit require 1 end log suspension for protection.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 13 TOT VOLUME 208PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 134-171/172

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER  
+ LOGGING METHOD

EXISTING ROAD  
PLANNED ROAD

## SILVICULTURE

## Rx SYNOPSIS

Cleaver unit followed by natural regeneration. Predominant plant series is western hemlock with some inclusions of mixed conifer. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shrub subassociation. Due to wet soils, natural regeneration closely and suitable for planning. If necessary, site productivity is low to moderate. Average site index is 67 (base). It possibly has 2 stages per acre for diversity. Revised R. Zabriskie 2/15/91

## TIMBER &amp; LOGGING

## SYSTEMS

RESOURCE CONCERNS: Due to wet soils, 1 end log suspension required. Unit designed for downhill skidding yarding. Tailholds may be a problem on top and bottom of unit. Locate landings to split yard U-notch in center of unit, directionally fall timber away from this notch. name: Revised R. Zabriskie date: 11/27/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

date:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: no fisheries concerns VDS  
Potential sediment delivery concern 8-6-90  
with small intermittent stream within unit. Downstream fisheries concerns are minimal.

name:

date: 5/1/90

## SOILS:

RESOURCE CONCERNS:

wet soils on steep slope. good potential suspension of log needed. split yard suitable. watch  
name: R. Z date: 8/6/90

## WILDLIFE:

RESOURCE CONCERNS:

low value deer winter range. Looks good otherwise.

name: Mike Lippertdate: 8/6/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

Net 2000 ft roadless. Primitive area. Overhanging to the. Places 31,072.01. MIBN E18/90

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

see Research Design for Probability Area

name: Karen D. Lippertdate: 8/6/90

Reviewed By:

James S. Burns' Bueyanski

Interdisciplinary Team Leader

date: 2/12/91

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## UNIT DESIGN CARD

## STATEMENT OF INTENT BY IDT:

Unit boundaries at present location due to cliffs on west and south boundaries. This size and shape is desirable from visual standpoint

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 350

PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 134-171/172  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:12000



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

305  
H

EXISTING ROAD  
PLANNED ROAD

UNIT # 701 ACRES 14

## SILVICULTURE

Rx SYNOPSIS Clearcut unit followed by natural regeneration. Site productivity ranges from low to moderate. Site index ranges from 55 to 80 with an average of 74 (Fair). Predominant plant species is western hemlock, predominant plant associations are western hemlock/blueberry and western hemlock/blackberry/shrub cabbages. If possible, leave 2 snags per acre for diversity.

## TIMBER &amp; LOGGING

SYSTEMS Yarding with a flyer system. Lower tie-downs may be a problem on western landing. Unit may become smaller during layover due to this.

name: Richard R. Zelenko

date: 11/27/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

NO PROBLEM WITH ACCESSING THIS UNIT.

name: L.C.

date: 8/6/90

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

no fishery concerns vgs 8-6-90

No water quality concern identified SLP 8-6-90

name:

date:

## SOILS:

RESOURCE CONCERNS:

Deep brackish line is indicated to avoid extreme hazard inclusion of soft + shallow soil

name: RAL

date: 8/6/90

## WILDLIFE:

RESOURCE CONCERNS:

Moderate value deer winter range but unit avoids brushy fringe habitat

name: Mike Weber

date: 8/6/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

VGO = Terrestrial Retention VMC = 1

Not a range loss in Roadless Primitive

Change to Rec Place 3/12/01 (Semi)

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

See Research design for Probability Area

name: James D. Zelenko

date: 8/6/90

Reviewed By:

James S. Burns Regional Interdisciplinary Team Leader

title:

Interdisciplinary Team Leader

date: 2/2/91

GMA-1900-05



## UNIT DESIGN CARD

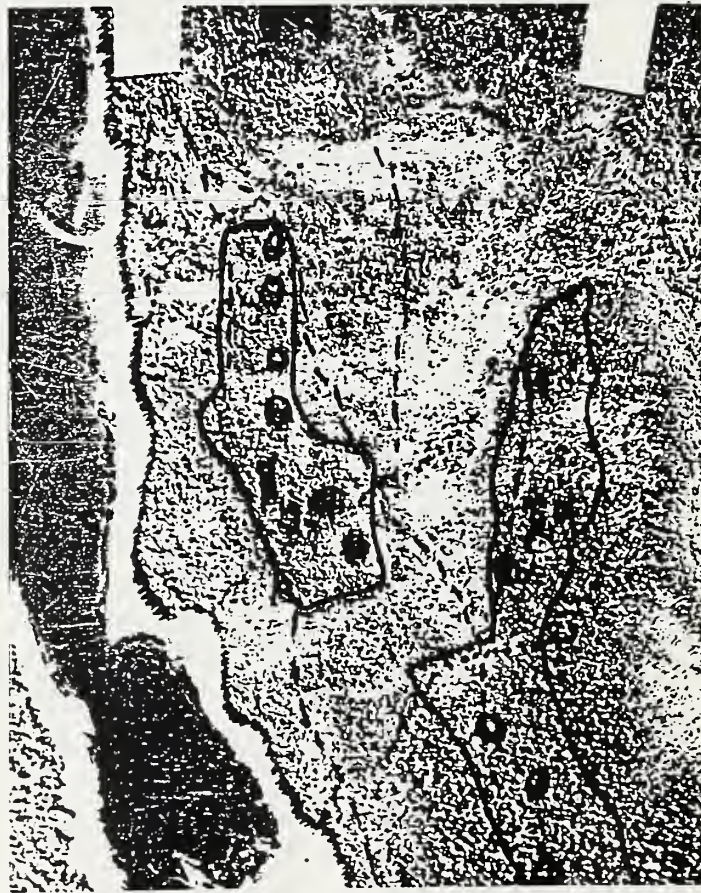
UNIT # **702** ACRES **41**

STATEMENT OF INTENT BY IDT:  
Lower (North) boundary at present location is accurate adequate for cultural resources, study 500' from beach fringe except for ridge which will be logged. Keep NW corner needed to access the 2 eastern most landings. Keep NW corner 1000 ft from estuary. Unit design and location will provide for a wildlife corridor between Unit 702 and 703. A buffer area potential day use area.

LOG SYSTEM **L5** EST VOLUME/AC **13** TOT VOLUME **533**

PHOTO INFO: YR **1984** FLT LN **49** STEREO PR **184-133/134**  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: **1:12,500**



## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- ① LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

EXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

RX SYNOPSIS Clearcut unit followed by natural regeneration. Site productivity is moderate with a site index of 80 (Fair). Predominant plant series is western hemlock, western plant series are western hemlock/blueberry, skunk cabbage and western hemlock/blueberry. It is possible, hence 2 snags per acre for diversity.

*Richard R Zeleny 2/15/91*

## TIMBER &amp; LOGGING

SYSTEMS Yarding with a flyer system. Due to broken ground, additional landings may be needed above those now indicated. May not be adequate deflection in northern corner of unit so unit may become smaller when yarded cut. Discontinue fall timber away from opening along name: *Richard R Zeleny* Southern boundary. date: 11/27/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESS TO OFF OF UNIT 753? Two timber roads will be maintained to access 2 units must maintain. ADDITIONAL TIMBER ALONG ROAD SO HAVE SOME OPENING. TOP TO MAKE SURE BACK HAVE UNIT TRAVEL TO COTTAGE name: *Richard R Zeleny* date: 2/15/91

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS: *fisheries concerns UG 8-6-90*  
*No water quality concerns SIP 8-8-90*

name:

SOILS:

RESOURCE CONCERNS: no concerns

date:

name: *RW*

WILDLIFE:

RESOURCE CONCERNS: *Low to moderate deer winter range. Small bulge extends into beach fringe habitat.*

date: 8/6/90

name: *Mike Weber*

RECREATION &

RESOURCE CONCERNS:

VMO = Partial Keteleum

date: 8/6/90

VISUAL:

VMO = 1

Potential day use area (dispersed camping) just SW of unit. Not name: *day use area for day use* Semi-private. date: 8/10/90

CULTURAL:

RESOURCE CONCERNS:

See Research Design for Probability Area KSL

name:

date: 8/15/90

Reviewed By:

*James S. Brown Bugarski*

title:

Interdisciplinary Team Leader

date: 2/12/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 703

ACRES 68

STATEMENT OF INTENT BY IDT:  
 Backline at current location due to cliffs. Due to steep side slopes unit cannot be extended further west. Lower (north) boundary at present location to stay 1000' from estuary. Design of units 702 & 703 provides approx 500' corridor for wildlife migration to alpine habitat. Unit is 1300 ft from potential sea clay suspension will protect unit. UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 13 TOT VOLUME 884PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-133/134

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000

## LEGEND

- CLASS I STREAM  
 CLASS II STREAM  
 CLASS III STREAM  
 BUFFER ZONE  
 LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROAD

SILVICULTURE Clearcut unit. Site productivity ranges from low to high. Average site index is 73 (Fair). Predominant plant series are western hemlock and mixed conifer. Western hemlock areas are anticipated to regenerate naturally, mixed conifer series should be considered for hand planting of alaska-cedar to maintain current species composition. If possible, leave 2 groups per acre for diversity. Revised R Zabrava 2/15/91

TIMBER & LOGGING RESOURCE CONCERNS: Due to sensitive soils one end log suspension required. Unit designed for downhill skidding yarding with one end log suspension. Lower the drums may be a problem in eastern 1/2 of unit.

name: Revised R Zabrava date: 11/27/90

ROADS & ACCESS RESOURCE CONCERNS: UNIT OCCUPIED BY ROAD 7502 AND A TEMP ROAD DURING THE UNIT TO THE EAST. REMAINS STAY IN PLACE TO AVOID ROADWORK. ROAD WORKER BE ADVISED TO WORK WITHIN THREE FEET TO THE EAST.

name: Revised R Zabrava date: 2/9/91

FISHERIES & HYDROLOGY RESOURCE CONCERNS:  
 No fisheries concerns 8-6-90 vgs

No water quality concerns SUP

name: Revised R Zabrava date: 8/8/90

SOILS: RESOURCE CONCERNS:  
 Harder 1 and log left on east 1/2 of unit to minimize soil disturbance. No other soil concerns

name: Revised R Zabrava date: 8/10/90

WILDLIFE: RESOURCE CONCERNS:  
 Low to moderate deer, winter range, but does avoid estuary fringe habitat. Prefer vertical units rather than horizontal

name: Mike Weber date: 8/6/90

RECREATION & VISUAL: RESOURCE CONCERNS:  
 VQ = R, VMC = 1

Potential day use (dispersed camping site) SE of unit. not to be a day use of roadblock semi-primitive. name: Change to be. Place 31,072.01. MBL 08/1/98 date:

CULTURAL: RESOURCE CONCERNS:

See Research Design for Priority, Area

name: Revised R Zabrava date: 8/6/90

Reviewed By:

title: James S. Burns Biological  
 Interdisciplinary Team Leader date: 2/12/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT #

706

ACRES

46

STATEMENT OF INTENT BY IDI:  
Backline of present location is there will be adequate tailhills and to avoid cliffs. West boundary along slide chute, east boundary along class III stream OK from soils & hydrology. Northeast boundary at present location to stay 1000' from estuary. This unit was combined with unit 708. Stop boundary on bench above class III stream to protect water quality.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1150PHOTO INFO: YR 1984 FLT LN 48c STEREO PR 184-52/53

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD(305)  
H

EXISTING ROAD  
 - - - - -  
 PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleaner unit followed by natural regeneration. Site productivity ranges from moderate to high, site index ranges from 70 to 100 and averages 80. Predominant plant species is western hemlock, predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity.

Refined R. Zafra

215791

## TIMBER &amp; LOGGING

## SYSTEMS

downhill highland yarding, split yard V-mech in western portion of unit, directionally full timber away from this V-mech.

name: Refined R. Zafra

date: 11/11/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS: will need road for future entries. NO ACCESS PROBLEMS. CLASS III STREAM WILL NEED TIMBER CURRENT.

## name:

date: 8/6/92

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Eastern boundary close to class I + 2 stream 8-7-90 078

Low to moderate concern for water quality in nearby class III and class I streams resulting from access road.

## name:

date: 5/10/8/90

## SOILS:

## RESOURCE CONCERNS:

No soil concern

## name:

date: 8/10

## WILDLIFE:

## RESOURCE CONCERNS:

Maintain value deer winter range. Boundary location provides 1000' buffer to estuary.

## name: Mike Weber

date: 8/7/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

VRO = R, VMC = 1

Potential for trail through estuary following thinned thicket for fishing. Hunting access. Hydro snags not particularly good for fishing. The loss of snagged name in landscape. Site potential in place. Place 31,072. date: 11/11/90

## CULTURAL:

## RESOURCE CONCERNS:

See Research Design for Prohibited Area

name: Refined R. Zafra

date: 6/18/90

## Reviewed By:

## title:

Interdisciplinary Team Leader

date: 2/12/91

CMA-1900-05



## UNIT DESIGN CARD

UNIT # **707** ACRES **53**

STATEMENT OF INTENT BY IDT:  
 Entire unit in moderate to high value deer winter range. Lower (south) boundary 1/2 mi from Conner's creek. East boundary at present location due to 1000' estuary zone. Even though boundary more than 1000' from estuary, there is a suitable landing location could not be found to lay this area.

## UNIT DESIGN (PLANNED)

LOG SYSTEM **H** EST VOLUME/AC **25** TOT VOLUME **1325**PHOTO INFO: YR **1984** FLT LN **48C** STEREO PR **184-53/52**

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: **1:12,000**

## LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- ⊙ LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD**305**  
**H**EXISTING ROAD  
--- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleaner unit, Predominate plant series are western hemlock and Sitka spruce. Hand planning of Sitka spruce in areas where spruce currently exists is prescribed to ensure adequate stocking following harvest. Western hemlock areas will regenerate naturally. Site productivity is high, average site index is 90. Consider stand for recommercial thinning in 20-25 years. If possible, regenerate 2 spruce per acre for diversity. *Revised R. J. Galt 2/15/91*

## TIMBER &amp; LOGGING

SYSTEMS  
 a problem in northwest corner of unit.

## RESOURCE CONCERNS:

Unit designed for diamondbill nightbird yarding. Tailfields may be

name: *Revised R. J. Galt* date: **11/27/90**

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

NO ACCESS PROBLEMS. LOWER EAST PORTION OF UNIT IS WITHOUT BACK SOURCE IS LOCATED.

name: *J.L.* date: **8/6/90**

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Southern boundary of unit close to Class 1 + 2 stream (Conner's Cr.). UGS 8-7-90 maintain streambed better strip along southern unit boundary. Potential water quality concern from road crossing on class II channel.

name: *J.L.* date: **5/18/90**

## SOILS:

## RESOURCE CONCERNS:

No soil concern

name: *J.L.* date: **5/18/90**

## WILDLIFE:

## RESOURCE CONCERNS:

Portion of unit is in riparian habitat important to deer, bears, and Vancouver Canada Geese. Unit does provide 1000' buffer for the estuary.

name: *Mike Wiebe* date: **8/7/90**

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

USO = R, VAC = 1

Potential for trail through estuary following river for logging access. Hydro says not particularly good fishing. By 20-25 years of clearing name: in border, semi-primitive & back fields 31, 072.01 of acreage Date: **MBN18/7/91**

## CULTURAL:

## RESOURCE CONCERNS:

See Research design for probability Area

name: *James D. Bland* date: **8-1-78**

## Reviewed By:

James S. Beard  
 Interdisciplinary Team Leader

title:

date: **2/12/91**

GMA-1900-05



## UNIT DESIGN CARD

UNIT # **709** ACRES **55**

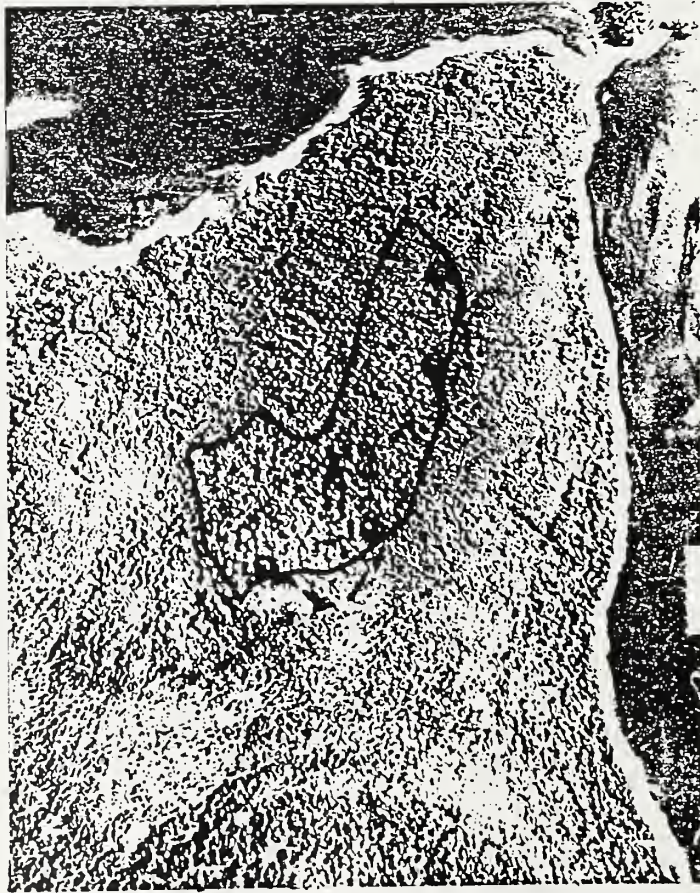
## STATEMENT OF INTENT BY IDT:

Northern boundary as drawn due to cliffs. Sparsely cliffs along lower (SE) boundary prevent further access and limit reach. Northern portion of unit in high value clear water range. Temp spur road needed to get to northern most landing; skyline system can provide suspension and minimize risk of soil disturbance.

## UNIT DESIGN (PLANNED)

LOG SYSTEM **L5** EST VOLUME/AC **25** TOT VOLUME **1375**
 PHOTO INFO: YR **1984** FLT LN **50** STEREO PR **184-173/172**  
 1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: **1:12000**

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

 UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
**305 H**

 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

 Rx SYNOPSIS Clearcut unit with natural regeneration. Site productivity ranges from moderate to high with an average site index of 100. Consider stand for precommercial thinning in 20-25 years. Predominant plant series is western hemlock. Performance plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible retain 2 snags per acre for diversity. **Richard R. Zafornig 2/15/91**

## TIMBER &amp; LOGGING

 SYSTEMS Yielding with a flyer system. Good possibility of a blindfold in northeast corner of unit - profiles needed to say for sure. Unit could become smaller at time of layout for this reason.  
 name: **Richard R. Zafornig** date: **11/27/90**

## ROADS &amp; ACCESS

RESOURCE CONCERNS: UNIT ACCESS OFF OF TEMP ROAD. USE NATURAL RELIEF OF GROUND TO SCREEN ROAD FROM VIEW IN CHATHAM STREET.

name:

date: **2/6/91**

FISHERIES &amp; RESOURCE CONCERNS:

No fisheries concerns UG 8-1-90

HYDROLOGY

No water quality concerns SIP

name:

date: **8/8/90**

SOILS:

RESOURCE CONCERNS: even, sloped, **Robert**

Lignand soils, average about 50% organic. No concerns

name: **Robert**date: **8/10/90**

WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer

winter range. Unit boundary provides bench fringe buffer.

name: **Mike Weber**date: **8/9/90**

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

name:

date: **8/15/90**

CULTURAL:

RESOURCE CONCERNS:

name:

date: **8/15/90**

See Research Design for Probability Area HSL

Reviewed By:

Note: Terrain uncertain and need for profiles.

High probability unit will become smaller during layout.

title:

Interdisciplinary Team Leader

date: **2/12/91**

CMA-1900-05



Alt. 2,5-LS  
Alt. 4-HE

UNIT DESIGN CARD

ACRES 20

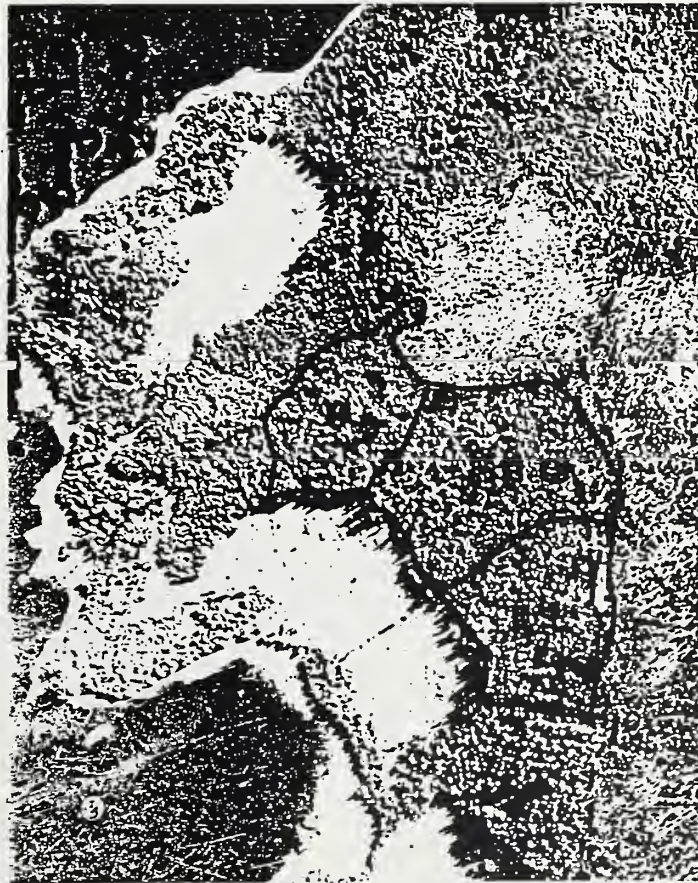
UNIT # 710

STATEMENT OF INTENT BY IDT:  
Sweep slopes, over soils and access limit moving unit further east. One landing should suffice. VQU is modification and is already in place by existing unit on west end. Western half of unit would be nice to leave for wildlife corridor to unit 712 but then the remaining area would be unusable due to access. Unit would be behind ridge to reduce wind threat risk. To be looking into.

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 500

PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-131/132  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12000



LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- (L) LANDING
- (305 H) UNIT BOUNDARY, NUMBER, + LOGGING METHOD
- EXISTING ROAD
- PLANNED ROAD

SILVICULTURE

Rx SYNOPSIS  
Site index of 93 (Fair). Consider for precommercial thinning in 20-25 years. Predominant plant species are western hemlock and mixed conifer. Consider hand planting of alaska cedar in the mixed conifer area to maintain current species composition. It is possible to plant 3 units per acre for diversity.

TIMBER & LOGGING

SYSTEMS  
Problem along west boundary. Shovel or small mobile yarder may be needed to log flatter areas in western portion of unit. Directionally fall timber away from opening along western boundary. Unit could also be helicopter name: Subaru Yarder date: 11/27/90

ROADS & ACCESS

RESOURCE CONCERNS: UNIT ACCESSIBLE BY TRAIL. ROAD OFF OF ROAD 1527 GRADE WILL BE 12-15%. AVERAGE. USE ANTI-SLIP SURFACES TO SCREEN ROAD FROM VIEW FROM CHATHAM STREET. name: Forest date: 8/6/91

FISHERIES & HYDROLOGY

RESOURCE CONCERNS:  
No fisheries concerns VQS 8-7-90  
No hydrology concerns. Unit was moved off of high moss wetting zone, eliminating sedimentation concerns.

name: Steve Forest date: 8-7-90  
SOILS: RESOURCE CONCERNS:

name:

WILDLIFE: RESOURCE CONCERNS: Loss of moderate value deer winter range. Western half of unit would provide corridor to high value deer winter range at higher elevation.

name: Mike Yarder date: 8/9/90

RECREATION & VISUAL: VQU - Modification

CULTURAL: N. Corner of unit is within road of Potlatch Rec. Unit area. Loss of scenic view of unit area. Unit is on a road - motorway. Hydrant area is to allow water to flow. name: Robert Yarder date: 8/13/90

RESOURCE CONCERNS:

name: See Research Design for Probability Area K50

Reviewed By:

title: Interdisciplinary Team Leader date: 2/27/91

CMA-1900-05



STATEMENT OF INTENT BY IDT: West boundary where it is due to need for wildlife corridor and for hunter access. Split yard V-notch in center of unit. Need at least 1 end log suspension to minimize disturbance to sensitive soils. Potential day use area on bench. This unit size and shape is good from a physical standpoint. Consider unit for helicopter landing to reduce amount of road built.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE or LS EST VOLUME/AC 25 TOT VOLUME 150

PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-131/132

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



LEGEND

Unit Boundary Existing Spec Rd.   
 Landing Planned Road   
 Split Line Temporary spur   
 Full Suspension Road closure   
 Partial Suspension (after haul)  
 Stream Streamside zone

## SILVICULTURE

Rx SYNOPSIS Partial cut unit. Cut approximately 20% of the average in small (2-5 ac.) group selection cuts. If helicopter yarded, make cuts circular, if cable yarded, cut skyline corridors, try to angle to reduce visual impacts. Predominant plant series is western hemlock. Cut areas should regenerate naturally. Site productivity ranges from moderate to high with an average site index of 88 (Fair).

## TIMBER &amp; LOGGING SYSTEMS

yarded uphill with a live skyline/flyer system. Directionally fell timber away from V-notch and split yard this notch. At least 1 end log suspension required to protect sensitive soils.  
name: *Kathleen R. Zaborne* date: 2/13/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

RESOURCE CONCERNS:

date:

name:

RESOURCE CONCERNS:

date:

SOILS: RESOURCE CONCERNS: Reclamation designing cut to avoid V notches and to avoid oversteepened areas. Otherwise split yard on V-notches and obtain partial suspension on the steeper slopes.  
name: *P. H. Weber* date: 2/11/91

## WILDLIFE:

RESOURCE CONCERNS:

date:

Snag retention probably unnecessary.  
name: *M. T. Weber* date: 2/15/91

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

date:

name:

RESOURCE CONCERNS:

date:

## CULTURAL:

RESOURCE CONCERNS:

date:

name:

RESOURCE CONCERNS:

date:

Reviewed By:

title:

Interdisciplinary Team Leader

date:

CMA-1900-05



STATEMENT OF INTENT BY IDT: *hatched*  
 west boundary where it is due to need for wildlife corridor.  
 Split yard away from V-notch in center of unit - use 2 landings.  
 At least 1 end log suspension needed due to high hazard soils.  
 Potential day use area on beach. This unit size and shape is  
 more desirable from visual standpoint than a larger unit. Log  
 suspension would reduce soil disturbance.

UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 850

PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-131/132

1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: 1:12000



LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- ||||| BUFFER ZONE
- (L) LANDING
- (305) UNIT BOUNDARY, NUMBER, H
- + LOGGING METHOD
- EXISTING ROAD
- PLANNED ROAD

SILVICULTURE

Rx SYNOPSIS  
 Site index of 88 (Fair). Predominate plant series is western  
 hemlock. Predominate plant associations are western hemlock/blueberry  
 and western hemlock/blueberry/skunk cabbage. If possible, retain 2  
 snags per acre for diversity.

TIMBER & LOGGING

SYSTEMS  
 yarding with a 4-yr system, fullhold may be a  
 problem along northern boundary. Split yard V-notch in center of unit.  
 Logs may need to be checked on and due to limited site size  
 landing area may need log suspension required better if full suspension  
 name: Richard R. Zabriskie to maintain disturbance date: 11/27/90

ROADS & ACCESS

will add some short ramp stumps to access optimum  
 cable settings. Use hand saws where possible to  
 screen ramp from view from Chatham Street.

FISHERIES & HYDROLOGY

Small V-notches split yarded to minimize  
 channel erosion/sediment concerns

name:

Stue Tautou date: 8/8/90

SOILS:

RESOURCE CONCERNS: split yard and V-notch.  
 even spread of logs on every corner of unit put in  
 of unit requires 1 end log left.

name: Richard R.

date: 8/10

WILDLIFE:

RESOURCE CONCERNS: Loss of moderate value  
 deer winter range. West boundary follows V notch along edge of  
 old clearcut to leave wildlife corridor.

name: Mike Weber

date: 8/19/90

RECREATION & VISUAL:

RESOURCE CONCERNS:

CULTURAL:

See Research Design for Probability Area

MSO date: 8/11/90

Reviewed By: Unit 711 was split into two units 711 and 732.  
 to provide a more flexibility in designing alternatives.

James S. Blumenschein  
 Interdisciplinary Team Leader date: 2/12/91

title: Interdisciplinary Team Leader



## UNIT DESIGN CARD

Alternative 4

UNIT # 713

Total  
ACRES 26

## STATEMENT OF INTENT BY IDT:

Helicopter yard unit to reduce amount of road built.  
Keep cut areas out of extreme hazard soils. Directionally  
fall timber away from V-notches.

SILVICULTURE  
Rx SYNOPSIS

Partial cut unit with small (2-5 ac.) group selection.  
Cut approximately 20% of the acreage. Cut areas  
should regenerate naturally. Site productivity is high with an average  
site index of 97 (Fair). Predominant plant species is western hemlock.  
Predominant plant species are western hemlock, blackberry/shield fern  
and western hemlock/blackberry/legume club (BFWDB).

Reviewed R. Zalomski 2/13/91

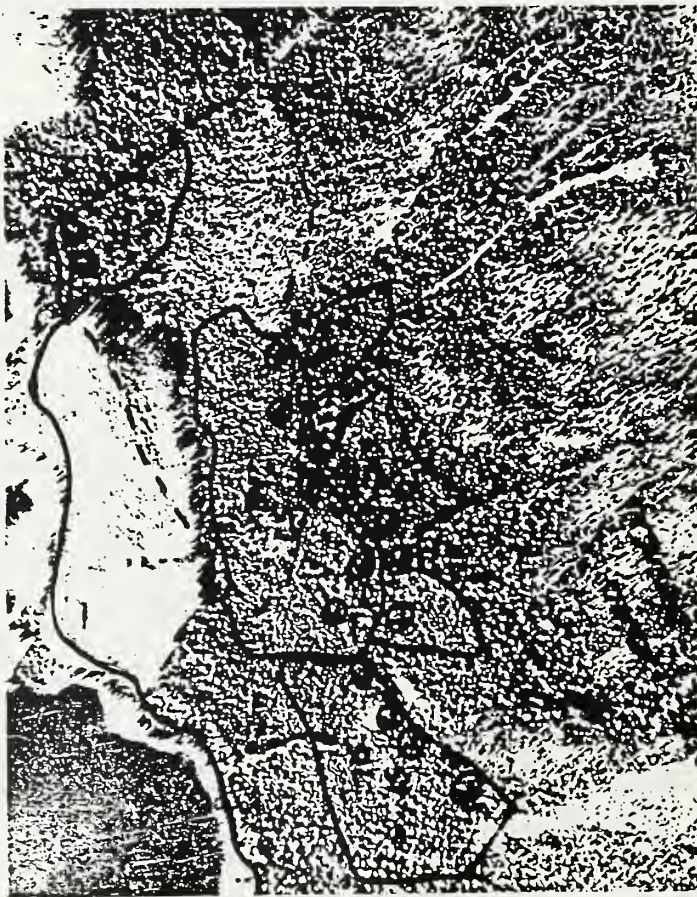
## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 125PHOTO INFO: YR 1984 FLT LN 48c STEREO PR 184-54/53

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

Unit Boundary Existing Spec Rd.   
Landing Planned Road   
Split Line Temporary spur   
Full Suspension Road closure   
Partial Suspension (after haul)   
Stream Streamside zone

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Helicopter yard units  
Fly timber to LTF. Directionally fall timber  
away from V-notches.

name: Reviewed R. Zalomskidate: 2/13/91

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

date:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

name:

date:

## SOILS:

RESOURCE CONCERNS: Recommend designing cut  
to avoid hazardous soils in central part of unit. Otherwise  
full suspension required to prevent slope degradation.

name: R. H. Weberdate: 2/14/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of deer winter range.  
Snag retention probably unnecessary.

name: M. J. Weberdate: 2/15/91RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/27/91

CMA-1900-05



UNIT # 713

ACRES 26

## STATEMENT OF INTENT BY IDI:

Backline at present location due to extreme soil hazard areas. Multiple landings needed to yard away from northes ~~thru~~ ~~into~~ in unit. Full suspension of logs not possible, due to log suspension in design to avoid soil degradation.

## UNIT DESIGN (PLANNED)

LOG SYSTEM SL EST VOLUME/AC 25 TOT VOLUME 650PHOTO INFO: YR 1984 FLT LN 48c STEREO PR 184-54/53

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000



## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (D) LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
 (305 H)

--- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS  
 Clearcut unit with natural regeneration. Site productivity is high with an average site index of 97. Consider stand for precommercial thinning in 20-25 years. Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blackberry/shield-fern and western hemlock/blueberry/deutz clob (DBWDB). If possible, retain 2 snags per acre for diversity. Reflected R 3/6/90 2/15/91

## TIMBER &amp; LOGGING

SYSTEMS  
 Backline yarding with one end suspension. Multiple V-natches in unit require split yarding, one landing may be needed than shown. Tailbacks may be split problem. A some areas along top of unit, discontinuously fill timber name: Reflected R 3/6/90 away from V-natches. date: 11/11/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

## name:

date:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

No polelines concerns off 8-8-90  
 V-natches will be split yarded to minimize channel erosion and sedimentation concerns.

## name:

date: 8-9-90

## SOILS:

RESOURCE CONCERNS:

Just suspension in central portion needed to avoid soil degradation.

## name: R. Leach

date: 25/10/90

## WILDLIFE:

RESOURCE CONCERNS:

winter range. Loss of moderate deer winter range.

## name: Mike Weber

date: 8/9/90

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

Reflected R 3/6/90  
 No polelines concerns primitive non-motorized deer range. Unit boundaries 2200' from road and 40' from road. Reflected R. Site. date: 8/11/90

## CULTURAL:

RESOURCE CONCERNS:

See Research Design for Probability Area 142

## name:

date: 8/11/90

## Reviewed By:

James S Burns Bayasak  
 Interdisciplinary Team Leader

## title:

date: 2/12/91



## UNIT DESIGN CARD

ANT. 4-NE

UNIT # 714

ACRES 53

## STATEMENT OF INTENT BY IDI:

Four landings will need spur roads to reach. Multiple landings needed to yard away from northies in unit.

## UNIT DESIGN (PLANNED)

LOG SYSTEM LS EST VOLUME/AC 25 TOT VOLUME 1325PHOTO INFO: YR 1984 FLT LN 48c STEREO PR 184-54/53

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1"=2000

## LEGEND

--- CLASS I STREAM

--- CLASS II STREAM

--- CLASS III STREAM

||||| BUFFER ZONE

L LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305 H

EXISTING ROAD

--- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Cleant unit with natural regeneration. Site productivity is moderate to high with an average site index of 85 (Fair). Unit is adjacent to an area logged approximately 15 years ago which is certified as being protected. Preliminary plant series is western hemlock, predominant plant associations are western hemlock/blebbery and western white/red/white/should form. EP possible, retain 2 snags per acre this diversity. Island R 346000 20791

## TIMBER &amp; LOGGING

## SYSTEMS

Resource concerns: Unit designed for uphill yarding with a flyer system. Multiple landings needed from V-normer's. More landings may be needed than to split yarding may be a problem along north boundary. Unit may have smaller clearing larger site to possible blindfold in north unit portion. Yarding will be away from class III units to minimize water quality concern.

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

## name:

## date:

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

No fisheries concerns VGS-8-8-90

Yarding will be away from class III units to minimize water quality concern.

name: Steve Youngdate: 8-9-90

## SOILS:

## RESOURCE CONCERNS:

No soil concern

name: R. Allendate: 8/10/90

## WILDLIFE:

## RESOURCE CONCERNS:

loss of low to moderate deer winter range.

name: Mike Weberdate: 8/9/90

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Relational Rec. Site 1400' from N. boundary - 8900' from rec. anchorage. Not class of boundary semi-permanent non-motorized range.

## name:

date: 8/10/90

## CULTURAL:

## RESOURCE CONCERNS:

See Research Design for Probability Area HSL

## name:

date: 8/10/90

## Reviewed By:

## title:

Interdisciplinary Team Leader

date: 8/10/91

GMA-1900-05

*James S. Burns Bryan*



## UNIT DESIGN CARD

UNIT # **715** ACRES **30**

## STATEMENT OF INTENT BY IDT:

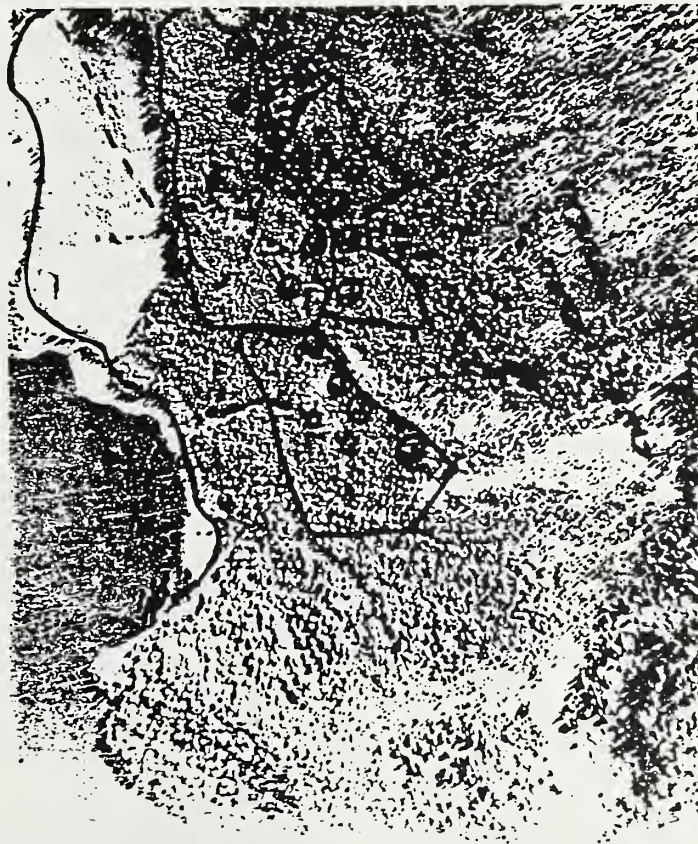
Lower (northern) boundary moved uphill to avoid blind leads. Unit could be left as wildlife corridor. west boundary extended to pick up the 1 setting left from unit 716. Both units combined into 715. Class III stream along lower west boundary.

## UNIT DESIGN (PLANNED)

LOG SYSTEM **L5** EST VOLUME/AC **25** TOT VOLUME **750**PHOTO INFO: YR **1984** FLT LN **48c** STEREO PR **184-54/53**

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: **1:12,000**

## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING
- 305 UNIT BOUNDARY, NUMBER, H  
 + LOGGING METHOD  
 --- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

Rx SYNOPSIS Clearcut unit with natural regeneration. Site productivity is moderate to high with an average site index of 91 (fair). Consider unit for precommercial thinning in 20-25 years. Predominant plant series is western hemlock/shield fern. Predominant plant associations are western hemlock/blueberry/shield fern, western hemlock/blueberry. If possible, retain 2 snags per acre for diversity. Richard R. Zelenak 2/15/91

## TIMBER &amp; LOGGING

SYSTEMS Yarding with a finger system. Split yard U-north in eastern portion of unit. Eastern portion of unit may require more landings or selection of portions of unit due to broken terrain. Directionally fall timber being from U-north in unit. name: Richard R. Zelenak date: 1/27/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

## name:

date:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

No fisheries concerns UGS 8-8-90  
 No hydrology concerns SLP 8-8-80

## name:

date:

## SOILS:

RESOURCE CONCERNS:

Spec. hard wood. in corner vicinity in 4

## name:

date:

## WILDLIFE:

RESOURCE CONCERNS:

deer winter range. Unit as designed protects the 500' bench fringe habitat.

## name:

date:

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

Potential Rec Site 1700' from N. Boundary of unit. Ant 2000' acreage in boundary of unit - pre-mature non-maturing. name: M. McLean date: 8/16/90

## CULTURAL:

RESOURCE CONCERNS:

See Research design for Prohibit. Area ASL

## name:

date:

Reviewed By: Note terrain in eastern portion of unit in broken and potential for big blind leads in high. High productivity the unit would be made smaller during layout.

James S. Burns Bayshore  
 Interdisciplinary Team Leader

date: 2/12/91

CMA-1900-05



## UNIT DESIGN CARD

Att. 4-HE

UNIT # 719

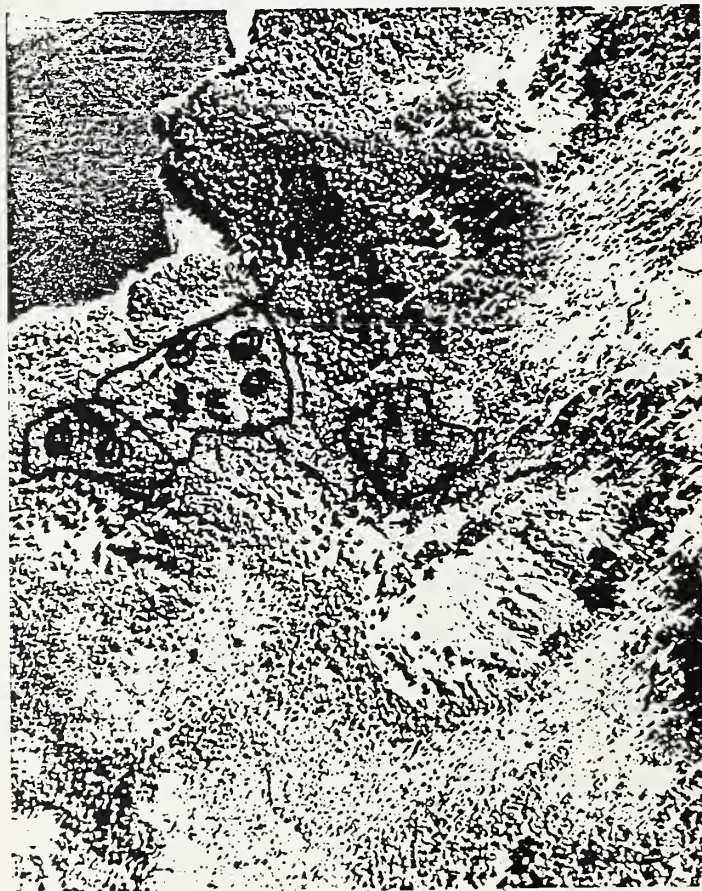
ACRES 13

STATEMENT OF INTENT BY IDT: back to present location due to extreme north and west boundaries moved. Class II stream runs through unit requiring 120' buffer. Boundary thus pulled back to south of this stream. Timber south of unit poor quality and muskeg.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 167PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-28/29

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000

## LEGEND

- - - - CLASS I STREAM
- . - . - CLASS II STREAM
- ||||| CLASS III STREAM
- ||||| BUFFER ZONE
- ⊙ LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305  
HEXISTING ROAD  
- - - -  
PLANNED ROADSILVICULTURE  
RX SYNOPSIS

clearest unit with normal regeneration. Site productivity ranges from low to moderate with an average site index of 54 (Fair). Predominate plant series is mountain hemlock. Predominate plant associations are mountain hemlock/blueberry/copper birch and mountain hemlock/blueberry/cossiope. If possible, retain 3 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for slashmill highlead yarding. Discontinuity fall timber away from north boundary to maintain integrity of stream buffers. Overhanging fall timber away from opening along southward boundary. Unit will be harvested by highlead yarding. Fly timber to CTF. name: Paul and K. Ziegler date: 11/27/90

ROADS & ACCESS  
RESOURCE CONCERNS:

name:

date:

FISHERIES &  
HYDROLOGY

## RESOURCE CONCERNS:

Class II Stream within unit U/S 8-9-90  
No concern for water quality provide that stream buffer is maintained along north and boundary.

name: Steve J. Fawcett

## SOILS:

## RESOURCE CONCERNS:

date: 8-8-90

No soil concern

name: R. Ruland

## WILDLIFE:

## RESOURCE CONCERNS:

date: 8/10

loss of winter range.  
loss of moose value  
deer winter range.

name: Mike Weber

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

date: 8/9/90

This is a headless primitive average.

name:

date: 11/16/90

## CULTURAL:

## RESOURCE CONCERNS:

see Council Dunge for Gravelly Area

name: M. Quimby

date: 8/21/90

Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/22/91

CMA-1900-05



# Alternative 4

## UNIT DESIGN CARD

UNIT # 720 Total ACRES 31

STATEMENT OF INTENT BY IDT: Keep harvested areas of unit at least 500' from beach. Stay out of extreme hazard soils along west boundary. Keep far enough away from Class II stream to the south and Class I stream to the west. Helicopter yard unit to reduce amount of road built.

### UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 13 TOT VOLUME 78  
 PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-28/29  
 1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1"=1000'



### LEGEND

Unit Boundary (L)  
 Landing ---  
 Split Line ...  
 Full Suspension F  
 Partial Suspension P  
 Stream ~~~~~  
 Existing Spec Rd. ---  
 Planned Road ---  
 Temporary spur ---  
 Road closure (after haul) X  
 Streamside zone ~~~~~

SILVICULTURE Partial cut unit with small (2-5 ac.) group selection. Rx SYNOPSIS Cut approximately 20% of the acreage. Site productivity ranges from moderate to high with an average site index of 92. Predominant plant series is western hemlock. Cut areas should regenerate naturally. Predominant plant associations are western hemlock/bloody and western hemlock/sitka spruce. 2/13/91  
 TIMBER & LOGGING RESOURCE CONCERNS: Helicopter yard unit. SYSTEMS Fly timber to LIT. Keep cut areas 500' from beach and far enough away from the Class I and II streams near unit. name: Richard R. Zolner date: 2/13/91

ROADS & ACCESS RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

FISHERIES & HYDROLOGY RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS: \_\_\_\_\_ RESOURCE CONCERNS: Recommended avoiding hazardous soils along western boundary

name: R. Zolner date: 2/14/91  
 WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: Loss of deer winter range. One landing may still be in bench fringe. snag retention probably unnecessary

name: M. J. Weber date: 2/15/91

RECREATION & VISUAL: \_\_\_\_\_ RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

title: Interdisciplinary Team Leader date: 2/26/91



## UNIT DESIGN CARD

Alternative

0

UNIT # 720

ACRES 31

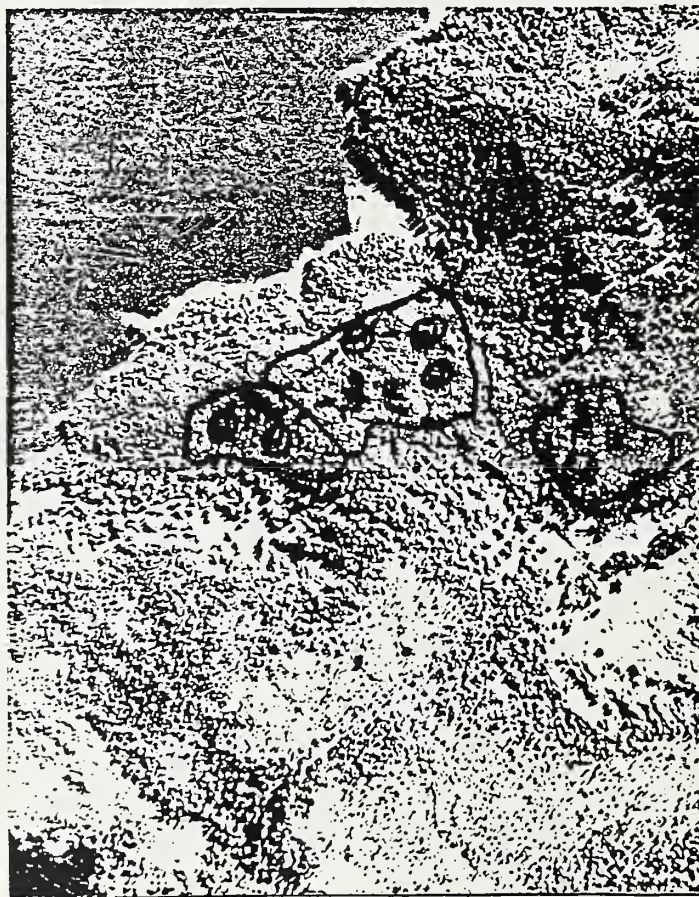
STATEMENT OF INTENT BY IDT:  
Locate northern most landing as far into unit as possible to stay 300' from beach. Small patch of extreme soil hazard along west boundary. Current unit boundaries are far enough from Class II stream along south and Class I stream to the west.

## UNIT DESIGN (PLANNED)

LOG SYSTEM H EST VOLUME/AC 13 TOT VOLUME 403PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-28/29  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

--- CLASS I STREAM  
- - - CLASS II STREAM  
||||| CLASS III STREAM  
⊕ BUFFER ZONE  
⊕ LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

--- EXISTING ROAD  
--- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit with natural regeneration. Site productivity ranges from moderate to high with an average site index of 92. Consider stand for precommercial thinning in 20-25 years. Predominate plant series is western hemlock. Predominate plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, retain 2 snags per acre for diversity.

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for dambuild highlevel logging. Additional landings may be needed due to broken terrain. Locate northern most landing as far away as possible from beach (or 570 feet) to minimize disturbance to beach fauna.

name: Richard R. Zelenka

date: 11/27/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

date:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

Class I stream along south mid boundary.  
No concern with proposed mid boundary above  
V-notch silhouette break.

name:

date: 8-7-90

## SOILS:

RESOURCE CONCERNS:

no soil concern

name: R. Zelenka

date:

## WILDLIFE:

RESOURCE CONCERNS:

Loss of high value deer  
winter range - landing in northeast corner of unit may be  
within beach fringe.

name: Mike Wilek

date: 8/9/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

Change Note: Place 31,901.02. Units W. boundary 3200' from planting line.  
Site of N. boundary 2700' from planting line. Place. All these from 7/1/92  
name: Mike Wilek

## CULTURAL:

RESOURCE CONCERNS:

see Research Design for Observability Data

name: K. J. Rasmussen

date: 8/24/90

Reviewed By:

title:

Interdisciplinary Team Leader

date: 7/12/91

CMA-1900-05



Alt. 2, 5 - H  
Alt. 4 - HE

UNIT # 721

ACRES 19

**STATEMENT OF INTENT BY IDT:**

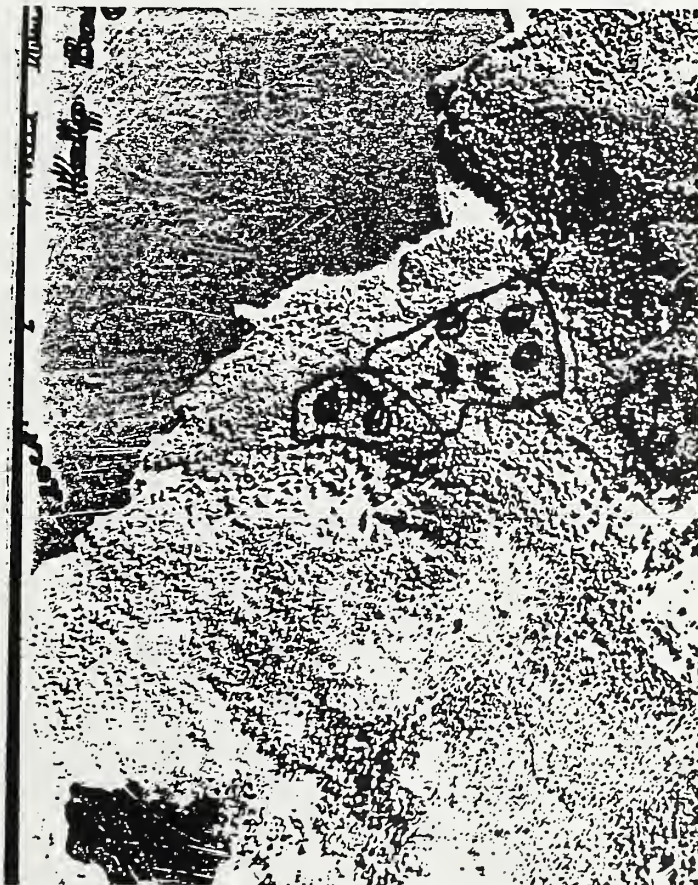
STATEMENT OF INTENT BY IDI:  
North boundary at present location due to 500' beach fringe zone.  
North  $\frac{1}{2}$  of unit in high arch probability area. Unit is in a  
recreation place. Unit cannot be extended to west due to  
beach fringe zone and no road access.

UNIT DESIGN (PLANNED)

LOG SYSTEM	H	EST VOLUME/AC	25	TOT VOLUME	473

PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-28/29  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



## LEGEND

- |                  | UNIT BOUNDARY, NUMBER,<br>+ LOGGING METHOD | EXISTING ROAD<br>PLANNED ROAD |
|------------------|--|-------------------------------|
| CLASS I STREAM   | 305 H                                      |                               |
| CLASS II STREAM  |  |                               |
| CLASS III STREAM |  |                               |
| BUFFER ZONE      |  |                               |
| LANDING          |  |                               |

**SILVICULTURE**  
**Rx SYNOPSIS**

**SILVICULTURE**  
**Rx SYNOPSIS**  
clearcut unit with natural regeneration. Site productivity ranges from moderate to high with index of 87. Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blechnum fern. If possible, retain 2 snags per acre for diversity.

## TIMBER & LOGGING

<p><b>TIMBER &amp; LOGGING SYSTEMS</b></p> <p>Problem along backline (west boundary). Unit could also be helicopter yarded.</p>	<p><b>RESOURCE CONCERNS:</b> Unit designed for nightlead logging, mostly downhills. Tailhells may be a</p>
---	--

name: Richard R. Zerkowke

date: 11/27/90

ROADS & ACCESS	RESOURCE CONCERNS:
----------------	--------------------

name:

FISHERIES &	RESOURCE CONCERNS:
-------------	--------------------

RESOURCE CONCERNS:  
no fisheries concerns 1/8 8-9-90  
no hydrology concerns 5/18 8-9-90

**name:**

SOILS:	RESOURCE CONCERNS:
--------	--------------------

SOILS: <u>                    </u>	RESOURCE CONCERNS: <u>                    </u>
<u>cl. soil</u>	<u>con water</u>

**name:**

**WILDLIFE:** \_\_\_\_\_ **RESOURCE CONCERNS:** \_\_\_\_\_

name: C. adamsi date: 8/10  
WILDLIFE:   RESOURCE CONCERNS: Loss of moderate value DWR.  
Unfavors the beach fringe.

name:

RECREATION &amp; RESOURCE CONCERNS:

date: 2/7/91

**VISUAL:**

1. Name: James to Ric. Place  
 2. Address: 31, 401 02. Potemtal Rec. Site  
 3. City: Metliss, 8. Landw...  
 4. State: me - Dr. m. 1st  
 5. Date: 2000  
 6. Author: me. to Ric. Place  
 7. Title: date: 11/11/91

CULTURAL:	RESOURCE CONCERNS:
-----------	--------------------

---

# Research Design for Probability Area

name: H. Quintero

date: 3/24/90

Reviewed By:

John S. Burns' Bayside

title: Interdisciplinary Team Leader

date: 2/12/91

CMA-1900-05



## UNIT DESIGN CARD

ALTERNATIVE 7

Total

ACRES

UNIT # 723

55

STATEMENT OF INTENT BY IDT: To design unit to be below cliffs along the backline to prevent mass soil wasting. Boundary along northern edge will be  $\pm 300'$  from old clearcut to provide migration corridors for deer. Helicopter log unit so road won't need to be built.

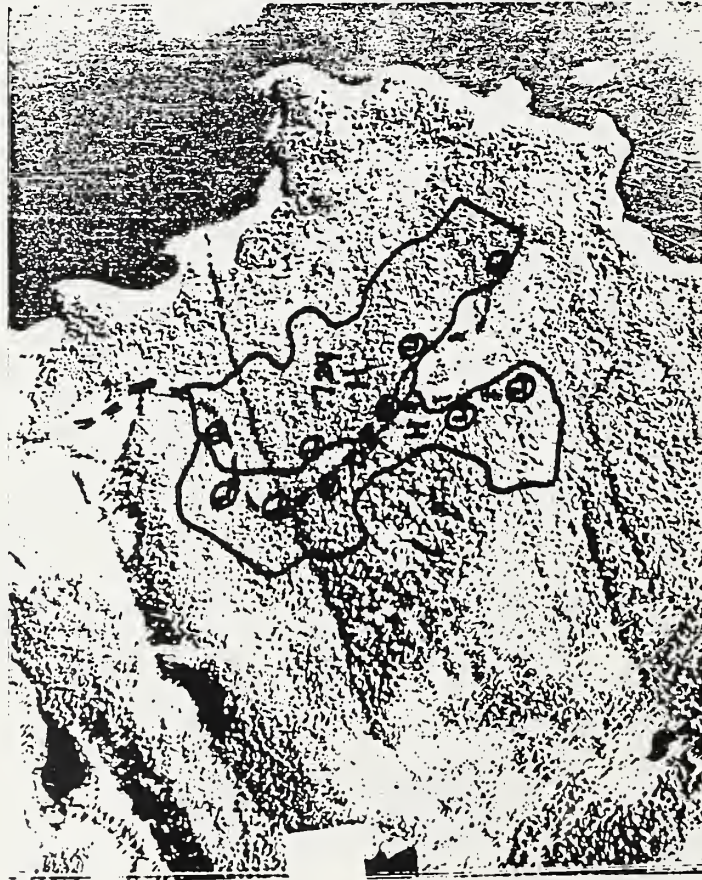
## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 250PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-26/27

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12,000



## LEGEND

Unit Boundary Existing Spec Rd.   
 Landing Planned Road   
 Split Line Temporary spur   
 Full Suspension Road closure   
 Partial Suspension (after haul)  
 Stream Streamside zone

SILVICULTURE Partial cut unit with small (2-5 ac) gap selection cuts. Cut approximately 20% of the acreage.  
 Rx SYNOPSIS Site productivity ranges from moderate to high with an average site index of 77 (Fair). Predominant plant series is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/decid. conifers. Should regenerate naturally. Redwood R. Zabrava 2/13/91

TIMBER & LOGGING RESOURCE CONCERNS: Helicopter log unit. Fly timber to lift site. Directionally fall timber away from U-notches in unit.

name: Redwood R. Zabrava date: 2/13/91

ROADS &amp; ACCESS RESOURCE CONCERNS:

name:

date:

FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

name:

date:

SOILS:

RESOURCE CONCERNS: Recommend designing cut to avoid a patch soils with an extreme hazard in central portion of unit. Otherwise recommend full suspension over that area.  
 name: P. H. Hatcher date: 2/14/91

WILDLIFE:

RESOURCE CONCERNS: Loss of deer winter range. snag retention probably unnecessary

name: M. J. Weber date: 2/15/91

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed By:

title:

Interdisciplinary Team Leader

date: 2/26/91

CMA-1900-05



UNIT # 723 ACRES 55

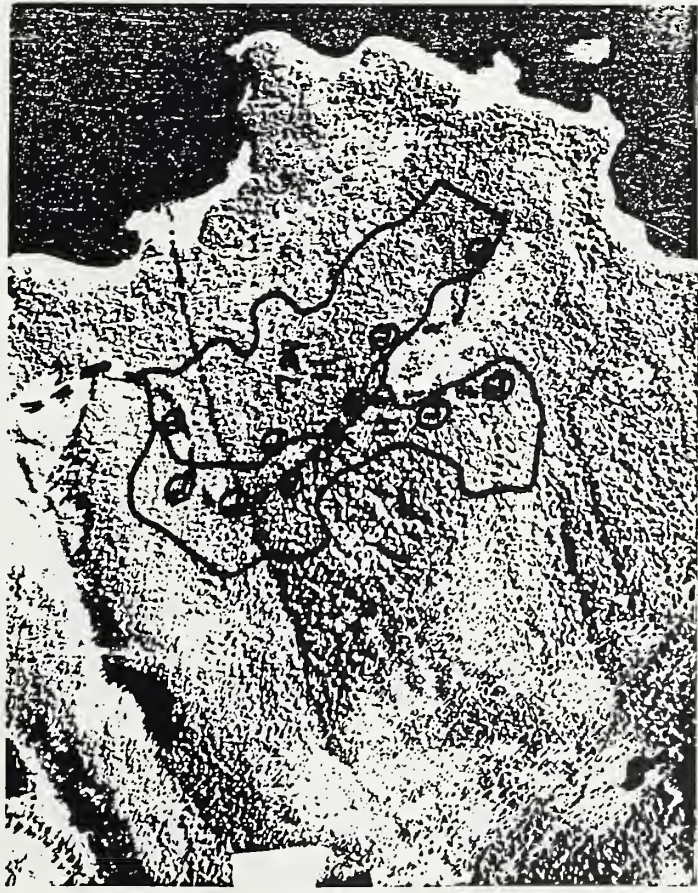
STATEMENT OF INTENT BY IDT: To design unit to be below cliffs along the boundary to provide stream and wetland along North edge will be 300' from old channel to provide migration corridor for deer. Landings will provide solid line along class III stream to protect with quality yard away from water. The better help into meeting it facilities will allow. JAA 8/14/90

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 1375

PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-26/27

1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: 1:11000



LEGEND

- CLASS I STREAM
- CLASS II STREAM
- CLASS III STREAM
- BUFFER ZONE
- LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD

305 H

EXISTING ROAD

PLANNED ROAD

SILVICULTURE Rx SYNOPSIS Clearcut unit with natural regeneration. Site predominate ranges from moderate to high with an average site index of 77. Predominate plant series is western hemlock, predominate plant association are western hemlock/blueberry and western hemlock/blueberry/deck. If possible, retain 2 snags per acre for diversity. Refund R Zabrava 2/5/91

TIMBER & LOGGING SYSTEMS RESOURCE CONCERNS: Unit designed for highest logging, the majority of which is downmill. Final unit design stays out of high hazard soils. Lower meadows may be a problem along southern east boundary. Directionally fall timber away from and split path. V-norm in northern portion of unit. name: Refund R Zabrava date: 11/27/90

ROADS & ACCESS RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

FISHERIES & HYDROLOGY RESOURCE CONCERNS: No fisheries concerns UGS 88-90. Class III stream in unit. Split grading will minimize water quality concern. name: Steve J. Pomeroy date: 8/9/90

SOILS: RESOURCE CONCERNS: Extensive may existing beyond soils occur as inclusion in central portion of unit as macroscopic rich in portion name: K. A. Webb date: 9/26/90

WILDLIFE: RESOURCE CONCERNS: Loss of lowland moderate deer winter range. Leaves 300' corridor between old clearcut and new. name: Mike Weber date: 8/9/90

RECREATION & VISUAL: RESOURCE CONCERNS:

Potential deer site 1400' from 5 unit boundary. Not located. Roadless system - no other north-south road clearance. name: \_\_\_\_\_ date: 8/14/90

CULTURAL: RESOURCE CONCERNS:

Research Design for Gravelly Area name: K. A. Webb date: 8/34/90

Reviewed By:

title: John S. Bland Bayou Area date: 2/12/91

Interdisciplinary Team Leader

GMA-1900-05



## UNIT DESIGN CARD

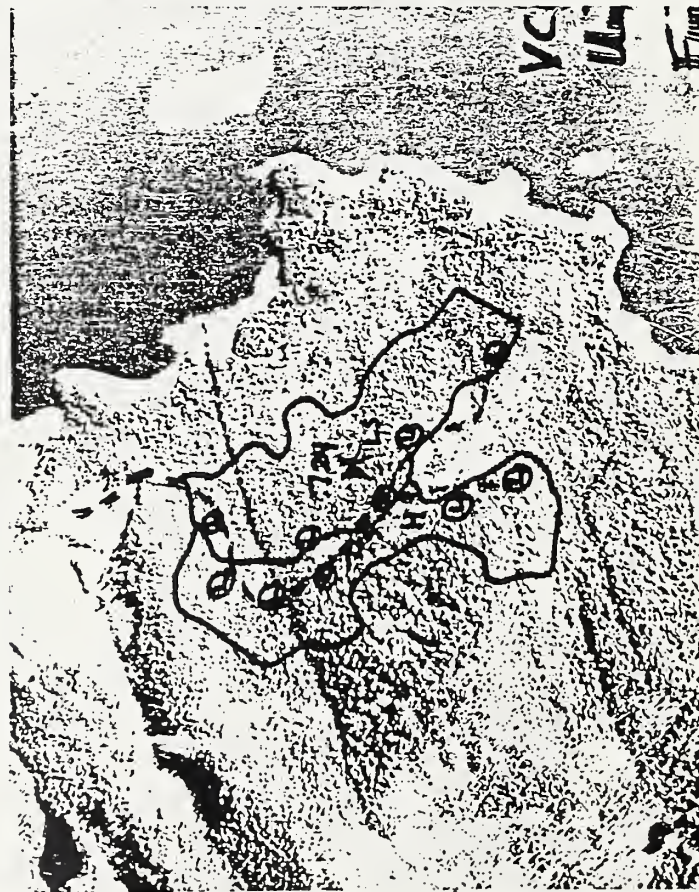
UNIT # **724** A14. S-L5 ACRES **76**

STATEMENT OF INTENT BY IDT: Comments similar to Unit 723. Split yard 2 v-natches to protect class III stream. Keep well. buy 4 300' for wildlife corridor from old clear cut. Roll truckle into upper meadow to blend with natural landscape. Visuals. B. H. boundary should be 500' from here to protect beach. Large habitat, blend will have meadow as habitat. JSC 3/1/90

## UNIT DESIGN (PLANNED)

LOG SYSTEM **L5** EST VOLUME/AC **13** TOT VOLUME **988**

PHOTO INFO: YR **1988** FLT LN **47** STEREO PR **1884-26/27**  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: **1:12000**

## LEGEND

--- CLASS I STREAM  
--- CLASS II STREAM  
--- CLASS III STREAM  
||||| BUFFER ZONE  
① LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
**305 H**

EXISTING ROAD  
---  
PLANNED ROAD  
---

## SILVICULTURE

Rx SYNOPSIS: Clearcut unit with natural regeneration. Site productivity ranges from low to moderate with an average site index of 64. Predominate plant series is western hemlock but there are some inclusions of mixed conifer. Predominate plant association is western hemlock/blueberry. It is possible, retain 2 snags per acre for diversity.

Richard R. Zolovage 2/15/91

## TIMBER &amp; LOGGING SYSTEMS

RESOURCE CONCERNS: Unit could also be helicopter yarded maintain trees and v-natch channels.

with a flyer system. Lower medians may be a problem along southern boundary. Split yard. V-natch in vegetation portion of unit and characterially name: Richard R. Zolovage fall timber away from it. date: 11/27/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

date:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

no fishes concerns UGS B-B 90

Split yarding. V-natch stream will minimize water quality concerns.

name:

date:

## SOILS:

RESOURCE CONCERNS:

No soils concerns

name:

date:

## WILDLIFE:

RESOURCE CONCERNS:

Loss of mature cedar winter range. Boundary provides 300' corridor between old and new units and buffers the beach by at least 500'.

name:

date:

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

Visual Rec. site 1500' from S. boundary of unit. Not close to boundaries. Semi-primitive cabin-motoring cottage.

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

See Research Design for Sustainability Area

name:

date:

## Reviewed By:

John S. Beard Bayanashi

Interdisciplinary Team Leader

date: 2/12/91

GMA-1900-05



## UNIT DESIGN CARD

UNIT # 725 ACRES 25

STATEMENT OF INTENT BY IDT: to maintain buffer along Class I stream - small side of 100' wide, landings on about equal as far away from stream as feasible. Ponds, edged into old clearing if possible to offset effect for use. Use fishing, occurs in small lake (cut head) buffer will help reduce impacts to users.

LOG SYSTEM H EST VOLUME/AC 25 TOT VOLUME 625

PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-85/26  
1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: 1:12,000



LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING  
UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
305 H  
EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
Rx SYNOPSIS  
Clearcut unit. Approximately one-half of unit is mixed conifer plant series. Consider planting alaska cedar in portions of mixed conifer area to retain current species composition. Rest of unit is western hemlock series, this portion can regenerate naturally. Site productivity ranges from low to high with an average site index of 76. Retain 2 sites per acre for diversity, if possible.

TIMBER & LOGGING  
SYSTEMS  
Resource concerns: Unit designed for highland logging, both upland and downland. Do not yard across small meskeys scattered throughout unit. For this reason, more landings may be needed than shown. Directionally fall timber away from these - meskeys and any thin existing units along south and east name: Paul R. Zaboriecki date: 11/27/90

ROADS & ACCESS  
RESOURCE CONCERNS:

name: Paul R. Zaboriecki date: 11/27/90  
FISHERIES & HYDROLOGY  
Resource concerns: Class I stream along northern boundary

maintain 100' minimum stream buffer with minimize fish habitat and water quality concern name: Steve Turek date: 8-9-90

SOILS: Ab. 50.75 cm. 5 RESOURCE CONCERNS:

name: Paul R. Zaboriecki date: 11/27/90  
WILDLIFE: RESOURCE CONCERNS: Loss of moderate value clear

winter-range. Buffer along stream on north end will protect high value bear habitat and other use. name: Mike Weber date: 8/9/90

RECREATION & RESOURCE CONCERNS:  
VISUAL:

known use of lake next to unit. People using old road to up to 100' from back to fish culture and recommended pulling in. have many signs at 200' from name: Steve Turek date: 11-11-90

CULTURAL: RESOURCE CONCERNS: 8/12/90


Dr. Research Design for Provability Area name: K. Zaboriecki date: 8/24/90

Reviewed By:

title: John S. Brown, 'Burgard's' date: 2/12/91  
Interdisciplinary Team Leader

CMA-1900-05

## UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: to remove small area bordered on 3 sides by clearcuts. Protect second growth in clearcuts. No concern noted by other resources that could be reached through redesign of unit. JBB 8/17/90		UNIT # <b>726</b> ACRES <b>15</b>	
LOG SYSTEM <b>HE</b> EST VOLUME/AC <b>25</b> TOT VOLUME <b>375</b>		SILVICULTURE Rx SYNOPSIS Clearcut unit with natural regeneration. Site productivity varies from low to high with an average site index of 80 (Fair). Predominant plant species is western hemlock. Predominant plant associations are western hemlock/blueberry and western hemlock/blueberry/shield fern. If possible, unit is adjacent to existing unit which has been clearcut. Richard R Zabel 215791	
UNIT DESIGN (PLANNED) PLANNED (ORTHO PHOTO) SCALE: 1:12,000		TIMBER & LOGGING SYSTEMS RESOURCE CONCERNS: No road access so helicopter yard unit. Discontinuously fall timber away from existing units along unit boundaries. Fly timber to landing along road 7597. name: <u>Richard R Zabel, Co.</u> date: <u>11/27/90</u>	
PHOTO INFO: YR <b>1984</b> FLT LN <b>46</b> STEREO PR <b>284-85/86</b>		ROADS & ACCESS name: <u>Richard R Zabel, Co.</u> date: <u>11/27/90</u>	
1/4 QUAD ID:		FISHERIES & HYDROLOGY name: _____ date: _____ RESOURCE CONCERNS: <u>No problems concerns UGS 8-8-90</u> <u>No hydrology concerns. SIP 8-9-90</u>	
		name: _____ date: _____ SOILS: _____ RESOURCE CONCERNS: <u>No soil concerns</u>	
		name: <u>C. Cohen</u> date: <u>9/21/90</u> WILDLIFE: _____ RESOURCE CONCERNS: <u>Loss of high value deer winter range.</u>	
		name: <u>Mike Weber</u> date: <u>8/9/90</u> RECREATION & VISUAL: _____ RESOURCE CONCERNS:	
		name: _____ date: _____ Cultural: _____ RESOURCE CONCERNS: <u>Change to loc. Place 31, 903.01. Units SE boundary 900' from the lake. m. Nelson</u>	
		name: _____ date: <u>8/24/90</u> Cultural: _____ RESOURCE CONCERNS: <u>Do Research Design for Paratubility area</u>	
LEGEND CLASS I STREAM CLASS II STREAM CLASS III STREAM BUFFER ZONE LANDING		Reviewed By: _____ name: <u>M. Leland</u> date: <u>8/24/90</u>	
UNIT BOUNDARY, NUMBER, + LOGGING METHOD <b>305 H</b>		title: <u>Jane S. Burns/Bigasak</u> date: <u>2/12/91</u> Interdisciplinary Team Leader	
EXISTING ROAD PLANNED ROAD		GMA-1900-05	



## UNIT DESIGN CARD

UNIT # **727**ACRES **5**

STATEMENT OF INTENT BY IDT: Unit lies on north side of road opposite small lake with population of muskrat. No design concerns with current location as long as sediment doesn't enter stream.

JBB 8/7/90

## UNIT DESIGN (PLANNED)

LOG SYSTEM **H** EST VOLUME/AC **25** TOT VOLUME **125**PHOTO INFO: YR **1984** FLT LN **46** STEREO PR **284-85/86**

1/4 QUAD ID:

PLANNED (ORTHO PHOTO) SCALE: **1:12,000**

## LEGEND

- CLASS I STREAM  
 - - - CLASS II STREAM  
 ..... CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING
- UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
**(305 H)**
- EXISTING ROAD  
 --- PLANNED ROAD

## SILVICULTURE

## RX SYNOPSIS

Clearcut unit with natural regeneration. Unit is adjacent to existing units which were logged approximately 15 years ago and are certified as being adequately stocked. Site productivity ranges from low to high with an average site index of 73 (Fair). Predominant plant series is western hemlock. If possible, retain 2 snags per acre for diversity.

Timber & Logging Systems: Unit designed for high yield logging, mostly downhill. Tower mediums may be a problem. Directionally fell timber away from existing units along unit boundary.

name: **Petland R. Zalorski** date: **11/27/90**

## ROADS &amp; ACCESS

## RESOURCE CONCERNS:

## name:

## date:

## FISHERIES &amp; HYDROLOGY

## RESOURCE CONCERNS:

Downstream impacts to Class I stream and lake UG5 R-9-90  
 concern for ground disturbance and potential erosion source to lake and stream. Stone Punctuation

## name:

## date:

## SOILS:

## RESOURCE CONCERNS:

No soil concerns

## name:

## date:

## WILDLIFE:

## RESOURCE CONCERNS:

loss of high value deer winter range.

## name:

## date:

## RECREATION &amp; VISUAL:

## RESOURCE CONCERNS:

Units W. boundary 400' from lake. Change to sec. Place 31,903.01.

## name:

## date:

## CULTURAL:

## RESOURCE CONCERNS:

See Research Design for Sustainability Area

## name:

## date:

## Reviewed By:

*John S. Baird Dugan*

Interdisciplinary Team Leader

## date:

CMA-1900-05



## UNIT DESIGN CARD

UNIT # **728** ACRES **32**

STATEMENT OF INTENT BY IDT: To have boundary area on south side be rolled into adjacent muskeg as light on helicopters will allow. Unit redesigns into helicopter due to no reasonable access. Helicopters also potential concern for sedimentation impacts to class I stream while protecting soil stability.

## UNIT DESIGN (PLANNED)

LOG SYSTEM HE EST VOLUME/AC 25 TOT VOLUME 800

PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-25/26  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO)

SCALE: 1:12000

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER,  
+ LOGGING METHOD

(305)  
H

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Consider planning alaska-cedar in the mixed conifer series areas to retain conifer species composition, western hemlock series areas should regenerate naturally. Site productivity ranges from low to moderate. Predominant plant associations are western hemlock/blueberry/strawberry and mixed conifer/blueberry/deer cabbage. If possible, retain 2 snags/acre. Richard R. Zabriskie 2/1/90

## TIMBER &amp; LOGGING

RESOURCE CONCERNS: No road access so helicopter yard vnc. Fly logs to landing along road below unit. Directionally fall timber away from existing unit along northeast boundary.

name: Richard R. Zabriskiedate: 11/27/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

date:

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS:

No fisheries concerns UFS 8-9-90  
No hydrology concerns SWP 8-9-90

name:

date:

## SOILS:

RESOURCE CONCERNS:

Overstepped slopes, some slopes require fuel expansion

name: R. Zabriskiedate: 9/2/90

## WILDLIFE:

RESOURCE CONCERNS:

Clear winter range. Loss of moderate decline

name: Mike Weberdate: 8/9/90

## RECREATION &amp;

RESOURCE CONCERNS:

## VISUAL:

RESOURCE CONCERNS:

The Place Change 31,703 sq. ft. boundary of unit is 1000' from the lake. Not within 1000' of lake boundary.

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

See Research Design for Considerability area

name: Mike Weberdate: 8/31/90

Reviewed By:

title: James S. Burns Buyowski  
Interdisciplinary Team Leader

date: 2/12/91

CMA-1900-05



## UNIT DESIGN CARD

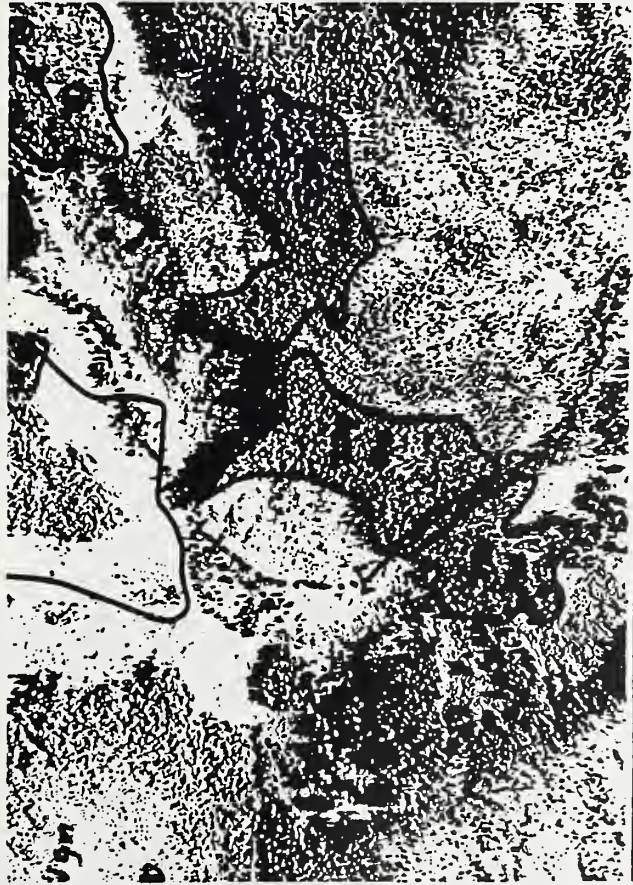
UNIT # **729** ACRES **27**

STATEMENT OF INTENT BY IDT: *Place III stream channel between units 729 & 730. Intent to keep unit boundary above break and maintain trees in the stream channel to provide slope stability & limit sediment delivery to water quality below class III stream. Loss of high value deer winter range not avoidable through unit design.*

## UNIT DESIGN (PLANNED)

LOG SYSTEM **HE** EST VOLUME/AC **25** TOT VOLUME **675**

PHOTO INFO: YR **1984** FLT LN **46** STEREO PR **284-85/86**  
1/4 QUAD ID: \_\_\_\_\_

PLANNED (ORTHO PHOTO) SCALE: **1:12,000**

## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

UNIT BOUNDARY, NUMBER, + LOGGING METHOD  
**305 H**

EXISTING ROAD  
PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit. Predominant plant series are western hemlock and mixed conifer. Consider planning Alaska-cedar in mixed conifer areas to retain certain species, composition. western hemlock areas should regenerate naturally. Site productivity ranges from low to high with an average site index of 66. Predominant plant associations are western hemlock/blueberry and mixed conifer/blueberry/sitka spruce. If possible, retain 2 snagglers for diversity. Redland R Zabrava 2/6/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: No road access so helicopter yard unit. Directionally fall timber quarry from existing unit and stream along boundary. Fly timber to landing along road below unit.

name: **Redland R Zabrava** date: **11/27/90**

## ROADS &amp; ACCESS

RESOURCE CONCERNS:

name:

date:

## FISHERIES &amp; HYDROLOGY

RESOURCE CONCERNS:

Class I channel below unit UGS 8-9-90  
Class III channel along west unit boundary. Keeping unit line above limited slope break will minimize water quality concerns.

name: **Steve Pascoe**date: **8-9-90**

## SOILS:

RESOURCE CONCERNS:

western 1/2 of unit frequent disturbance of slopes. Fuel suspension occurrence of slopes.

name: **R. C. West**date: **7/2/90**

## WILDLIFE:

RESOURCE CONCERNS:

Loss of high value deer winter range.

name: **Mike Weber**date: **8/9/90**

## RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

Change to the Place 31,903.01. Northern boundary of unit 1700' from the line.

name:

date: **5/16/90**

## CULTURAL:

RESOURCE CONCERNS:

See Research Design for Prohibitory Area

name: **M. L. Lumsden**date: **2/21/90**

Reviewed By:

title: **James S. Burns Bugarski**  
Interdisciplinary Team Leader

date: **2/12/91**

CMA-1900-05



## UNIT DESIGN CARD

UNIT # **730**ACRES **16**

STATEMENT OF INTENT BY IDT: Upper most boundary dropped down to avoid oversteep slopes will be identified. regeneration problem. bottom body above V-water break to protect Class III stream. No other resource concerns noted at time of unit design. **AS 8/1/90**

## UNIT DESIGN (PLANNED)

LOG SYSTEM **HE** EST VOLUME/AC **25** TOT VOLUME **400**PHOTO INFO: YR **1984** FLT LN **46** STEREO PR **284-85/86**

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: **1:12,000**

## LEGEND

--- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (L) LANDING

UNIT BOUNDARY, NUMBER,  
 + LOGGING METHOD  
**(305 H)**

--- EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE Clearcut unit. Predominant plant species are Sitka spruce, mixed conifer and western hemlock. Planting of Sitka spruce in Sitka spruce areas presented to ensure adequate stocking. Consider planting alaska-cedar in mixed conifer areas to retain current species composition. Western hemlock areas should regenerate naturally. Site productivity ranges from low to high with an average site index of 34 (fair). If possible retain 2 single trees for diversity. Refund R 3/2/90

TIMBER & LOGGING RESOURCE CONCERNS: No road access so 200 ft. helicopter yard unit. Fly timber to landing along road below unit. Directionally fall timber away from openings along unit boundary.

SYSTEMS name: **Richard R. Zafra** date: **11/27/90**

ROADS &amp; ACCESS RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

FISHERIES & HYDROLOGY RESOURCE CONCERNS: Class I channel below unit UVS 8-9-90. Clearcut stream along unit boundary. Keying the unit boundary line above 1-mil. side-by-side creek will minimize water quality concern. date: **8-8-90**

name: **I have 1 team** date: **8-8-90**

SOILS: RESOURCE CONCERNS: snow, sublimation, backfire. And? and big explosion top. date: **3/2/90**

name: **Robert** date: **3/2/90**

WILDLIFE: RESOURCE CONCERNS: Loss of moderate value deer winter range.

name: **Mike Weber** date: **8/9/90**

RECREATION & VISUAL: RESOURCE CONCERNS:

Re. Place changes (31,403.01).

name: \_\_\_\_\_ date: **8/16/90**

CULTURAL: RESOURCE CONCERNS:

for Research Design for Probability over

name: **G. L. Lumsden** date: **8/24/90**

Reviewed By:

title: **Interdisciplinary Team Leader**date: **2/12/91**

CMA-1900-05



UNIT DESIGN CARD

STATEMENT OF INTENT BY IDT: Entire unit in high value deer winter range. Originally part of unit 711 but broken out along notches on north and south boundaries to better be placed in alternatives. UQD is modification and this is already met by existing unit on south boundary. At least one end log suspension required due to high hazard soils.		SILVICULTURE Rx SYNOPSIS Partial cut unit with group selection. Cut approximately 20% of the acreage. If helicopter logged, cut small (2-5 ac) openings. If cable logged, cut yarding corridors and try to angle to reduce visual impact. Site productivity is moderate to high with an average site index of 89 (Fair). Predominant plant series is western hemlock. Unit should vegetation management.	
LOG SYSTEM <u>LS or HE</u> EST VOLUME/AC <u>25</u> TOT VOLUME <u>200</u>		TIMBER & LOGGING SYSTEMS RESOURCE CONCERNS: Unit designed for uphill helicopter yarding with a flyer system. Unit could also be yarded. Tailhells may be a problem along northern boundary. Lower tailhells may be a problem on eastern boundary. One end log suspension required cut by to get full log system to minimize disturbance to existing unit. name: Richard R. Ziegler, team existing unit. date: 2/13/91	
PHOTO INFO: YR <u>1984</u> FLT LN <u>49</u> STEREO PR <u>184-131/132</u>		ROADS & ACCESS RESOURCE CONCERNS:	
1/4 QUAD ID: _____		name: _____ date: _____	
PLANNED (ORTHO PHOTO) SCALE: <u>1:12,000</u>		FISHERIES & HYDROLOGY RESOURCE CONCERNS: name: _____ date: _____	
		SOILS: RESOURCE CONCERNS: Recommend partial suspension over V-notches that are associated with hazardous soils or design cut to avoid these areas. name: R. H. Hatcher date: 2/14/91	
		WILDLIFE: RESOURCE CONCERNS: loss of deer winter range. Snag retention may not be needed. name: M. J. Weber date: 2/15/91	
		RECREATION & VISUAL: RESOURCE CONCERNS: name: _____ date: _____	
		CULTURAL: RESOURCE CONCERNS: name: _____ date: _____	
LEGEND Unit Boundary  Existing Spec Rd. Landing  Planned Road Split Line  Temporary spur Full Suspension  Road closure Partial Suspension  (after haul) Stream  Streamside zone		Reviewed By: <i>John S. Beard</i> <i>Interdisciplinary Team Leader</i> title: _____ date: 2/26/91 CNA-1900-05	



## UNIT DESIGN CARD

Alternative 5  
UNIT # 732

ACRES 40

## STATEMENT OF INTENT BY IDT:

Entire unit in high value deer winter range. Originally part of unit 711 but broken out along notches on north and south boundaries to better be placed in alternatives. U-0 is modification and this is already met by existing unit 711 south boundary. At least one end log suspension required due to high hazard soils.

## UNIT DESIGN (PLANNED)

LOG SYSTEM L-5 EST VOLUME/AC 25 TOT VOLUME 1000PHOTO INFO: YR 1994 FLT LN 49 STEREO PR 194-131/132

1/4 QUAD ID:

PLANNED (ORTHO PHOTO)

SCALE: 1:12000



## LEGEND

- CLASS I STREAM  
 --- CLASS II STREAM  
 --- CLASS III STREAM  
 ||||| BUFFER ZONE  
 (D) LANDING

UNIT BOUNDARY, NUMBER, 305 H + LOGGING METHOD

EXISTING ROAD  
 --- PLANNED ROAD

SILVICULTURE  
RX SYNOPSIS

Clearcut unit with natural regeneration. Site productivity is moderate to high with an average size index of 84 (Fair). Predominate plant species is western hemlock, predominate plant associations are western hemlock/blueberry and western hemlock/blueberry/skunk cabbage. If possible, retain 2 snags per acre for diversity.

Richard R. Zabriskie 2/5/91

TIMBER & LOGGING  
SYSTEMS

RESOURCE CONCERNS: Unit designed for upland yarding with a flyer system. Fairfields may be a problem along northern boundary. Tower tie-downs may be a problem on eastern landing. One end log suspension required. If possible, try to achieve full log suspension to minimize clearing trace to skunk cabbage. Directionally flat under open forest canopy name: Richard R. Zabriskie along northern boundary date: 11/3/90

## ROADS &amp; ACCESS

RESOURCE CONCERNS: Roads necessary off of ROAD #7527. MAY NEED SHORT TRIMMING SPURS TO REACH BEST LANDING SITES. USE LANDSCAPES TO SCREEN ROAD FROM VIEW IN CHAGINUM STREAM. name: R. Zabriskie date: 2/6/91

FISHERIES &  
HYDROLOGY

RESOURCE CONCERNS: Close to stream. No fish concerns. Limited boundary avoids major class III wetlands. Spotted and small wetlands to minimize erosion and sediment delivery potential. name: Steve J. Trenchard date: 8/2/90

## SOILS:

RESOURCE CONCERNS: Wetlands in center of unit would require split yarding and/or partial suspension to minimize soils impacts. name: R. Haecker date: 2/14/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of high value deer winter range. Corridor down to the beach needed through the west end of unit 710 if this unit not logged. name: Mike Weber date: 8/9/90

RECREATION &  
VISUAL:

RESOURCE CONCERNS: Potential for unit 1100' from Al. Boundary of unit. Anchorage to 3000' from Al. Boundary. Wetlands of road below semi-primitive non-motorized name: acreage. name: Mike Weber date: 8/9/90

## CULTURAL:

RESOURCE CONCERNS: See Research Design for Probability Area. MSB name: P. J. H. date: 8/11/90

## Reviewed By:

Interdisciplinary Team Leader

date:

CMA-1900-05



# **Appendix E**

## **Road Cards**





## ROAD DESIGN CARD

ROAD SEGMENT # 7588 (R) MILES

STATEMENT OF INTENT BY IDT: HYDROLOGY AND FISHWAYS TO BE INVOLVED IN LAYOUT AND DESIGN OF BRIDGE CROSSINGS. IF FISH PRESENT IN CLASS II CROSSING, DESIGN FOR FISH PASSAGE. HIGH PROBABILITY OF RECH' AT ESTUARY. Future access needs for planting, precommercial thinning and commercial harvest.

VCU 293 Map Index SITKA B4 NW  
Units Accessed ALL

PHOTO INFO: YR 1976 FLT LN 324 STEREO PR 476-191/192  
1/4 QUAD ID: B4 NW



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

1/4 1/2 Miles  
Map scale 1:59489

☒ ROAD NUM 7588

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: THREE AND THREE CLASS II STREAM CROSSINGS THAT WILL REQUIRE BRIDGES. THE TWO TO THE NORTH SHOULD HAVE PERMANENT 18" BRIDGES. ROAD ALSO CROSSES 3 CLASS II STREAMS, USE CULTIVATORS' NOTES.

name: J. Weber date: 2/19/91

TIMBER-LOGGING: RESOURCE CONCERNS: There are 5 units which may need to be accessed in 3-5 years for planting. There are 6 units which may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest.

name: Reynard date: 2/16/91

FISHERIES & RESOURCE CONCERNS:

HYDROLOGY:

4 CRITICAL STREAM CROSSINGS IN UPPER HALF OF THE WATERSHED. Two Class I crossings require bridges and field reviews needed on upper crossing. Field reviews required VGS.

name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS: RESOURCE CONCERNS:

No soils concerns

name: P. Huetten

WILDLIFE: RESOURCE CONCERNS: No additional loss of habitat. Vehicle access undesirable because of impacts to brown bear and marten.

name: M. J. Weber date: 2/6/91

RECREATION & RESOURCE CONCERNS:

VISUAL:

name: \_\_\_\_\_

CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ date: \_\_\_\_\_

title: \_\_\_\_\_

James S. Burns' Bayard

Interdisciplinary Team Leader date: 2/20/91

CMA-1900-06

## ROAD DESIGN CARD

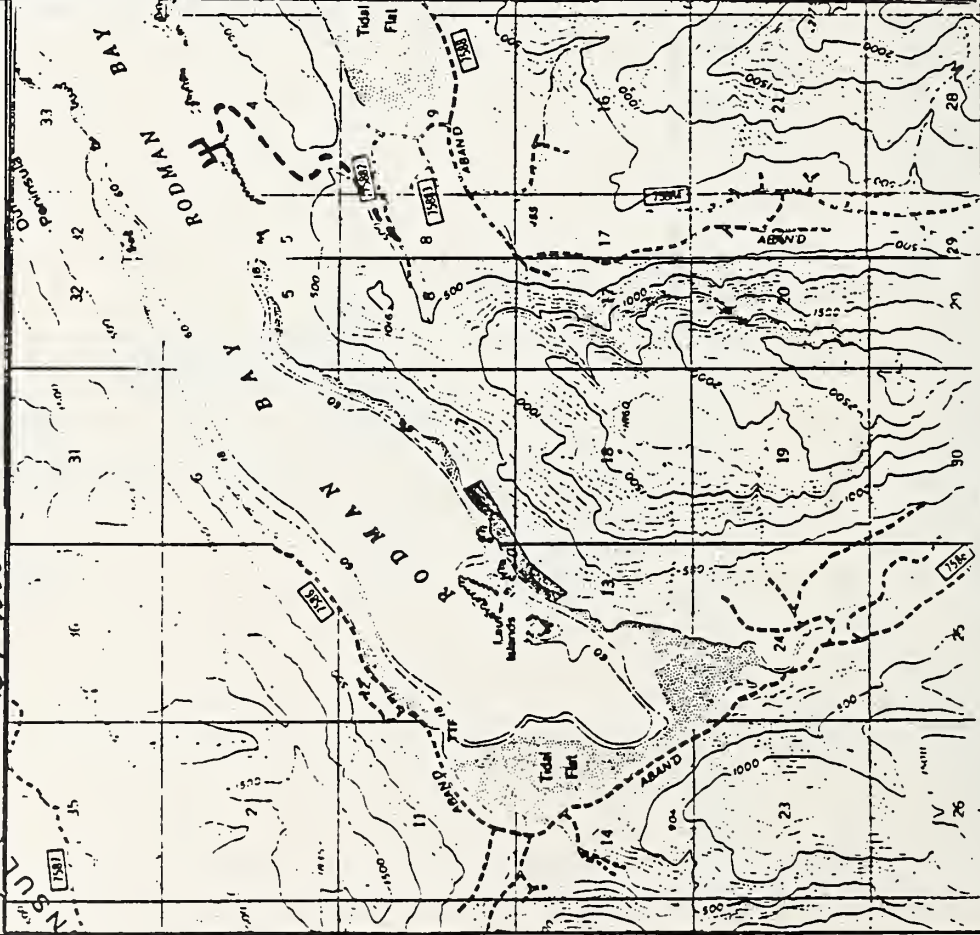
ROAD SEGMENT # 7588 (N) MILES

STATEMENT OF INTENT BY IDT: UTILIZE CULVERT IN CAMP-  
AREA, FISHERIES TO EVALUATE POSSIBLE SPAWNING  
AREA.ROAD MGT OBJ.  
SYNOPSIS

VCU 293

Units Accessed ALL

Map Index SITKA B4 NW

PHOTO INFO: YR 19 76 FLT LN 32 STEREO PR 376-1748  
1/4 QUAD ID: B4 NW

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: THIS ROAD WOULD ONLY BE  
BUILT IF THE NORTH RODMAN LTF WERE UTILIZED, 10-14%  
ADVERSE GRADE FOR EAST 0.40 MILES, UTILIZE LARGE  
CULVERT ON SHORT CLASS II STREAM IN CAMP AREA IN RODMAN  
RACK PIT LOCATED IN EAST SWITZER RACK NEAR CAMP.  
name: LETS date: 2/19/91

TIMBER-LOGGING RESOURCE CONCERNS:

name: Richard R. Zelnick date: 2/16/91FISHERIES & RESOURCE CONCERNS: THE CONCERNS OF THE CLASS IHYDROLOGY: MODERATE SEDIMENT; DELIVERY PERMIT TO THE CLASS IUse large diameter pipe to facilitate fish passage  
near tide-water, 198.name: R. H. H. H. date: 2/12/91SOILS: RESOURCE CONCERNS: Recommend that road location  
be within above the slope break of the large & north of the  
southern end of the new construction.name: R. H. H. H. date: 2/12/91WILDLIFE: RESOURCE CONCERNS: Loss of DNR and Marten  
habitat. Vehicle access undesirable because of impacts to br. bear  
and marten.name: M. J. Weber date: 2/6/91

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

name: LETS date: 2/19/91

CULTURAL: RESOURCE CONCERNS:

name: LETS date: 2/19/91

Reviewed by:

title: Interdisciplinary Team Leader date: 2/20/91James S. Burns  
Interdisciplinary Team Leader

CMA-1900-06



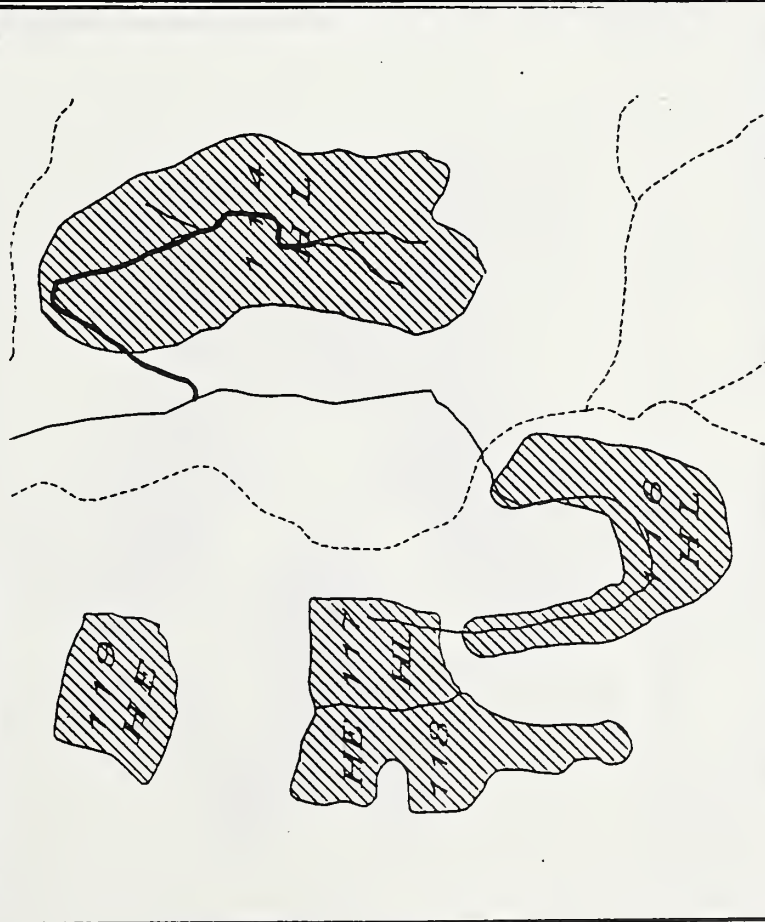
## ROAD DESIGN CARD

ROAD SEGMENT # **75881** MILES

STATEMENT OF INTENT BY IDT: HYDROLOGY CONCERNS WITH CLASS III STREAM CROSSINGS, VEHICLE CULVERTS IN V<sup>1</sup> INTERLAKES. CONCERN WITH LOSS OF DEER WINTER RANGES AND ANTELOPE HABITAT.

VCU 293  
Units Accessed 114 Map Index STRA 4B NW

PHOTO INFO: YR 1976 FLT LN 32A STEREO PR 476-195/194  
1/4 QUAD ID: B4 NW



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM **77881**

Scale 1:10000  
1/4 1/2 Miles

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: THE FIRST 0.80 MILES OF ROAD REQUIRES CONSTRUCTION SPECIFICATION CONTROL BECAUSE OF MULTIPLE CLASS III CROSSINGS.

name: [Signature] date: 2/19/91  
TIMBER-LOGGING RESOURCE CONCERNS: No concerns.

name: Richard R. Zelenko date: 2/16/91  
FISHERIES & HYDROLOGY: RESOURCE CONCERNS: CURRENTLY SIZED & LOCATED CULVERTS ON THE V-MOUNTAIN DRAINAGES. DUE TO THE FACTS OF THE EXISTING CULVERTS BEING IN THE MIDDLE OF A RUMBLE RUN DRAINAGE AND THE RUMBLE RUN DRAINAGE BEING A RUMBLE RUN DRAINAGE. WATERSHED RISKS. OK

name: [Signature] date: [Signature]  
SOILS: RESOURCE CONCERNS: Ensure that road and landing are located outside the area of hazardous soils in the Southern part of Unit 114.

name: R. Huether date: 2/12/91  
WILDLIFE: RESOURCE CONCERNS: Loss of DWR and marten habitat. Vehicle access undesirable because of impact to br. bear and marten.

name: M. J. Weber date: 2/6/91  
RECREATION & VISUAL: RESOURCE CONCERNS:

name: [Signature] date: [Signature]  
CULTURAL: RESOURCE CONCERNS:

name: [Signature] date: [Signature]  
Reviewed by:

title: James S. Burns Bayouville date: 2/20/91  
Interdisciplinary Team leader

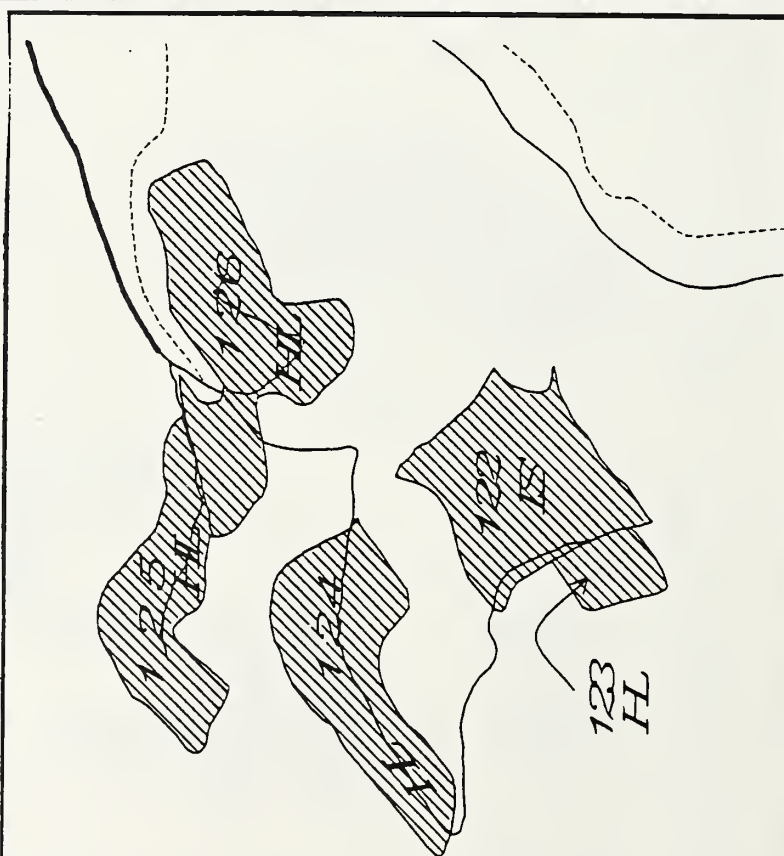
CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # **75882** (R) MILES

STATEMENT OF INTENT BY IDT: CLEAR ONLY WHAT IS NEEDED FOR SAFETY TO ROAD & VISUALS AND MAINTAIN STABILITY OF ROADWAY.  
 Future access needs would include some plotting, precommercial thinning and future commercial harvest.

VCU 293 123, 123 Map Index SITKA 84 NW  
 Units Accessed 124, 125, 126  
 PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076-157  
 1/4 QUAD ID: 84 NW 758



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

Map scale 1" = 11640'

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: NO CONCERNS. MINOR CLEARING.

name:

TIMBER-LOGGING: RESOURCE CONCERNS: Units 125 and 126 may need to be accessed in 3-5 years for planning. Unit 122 may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest.

FISHERIES &amp; HYDROLOGY:

name: Robert R. Zedler date: 2/16/91  
 RESOURCE CONCERNS: MODERATE SEDIMENT DELIVERY & TRANSPORT MATERIAL FROM CLASS 1/3 TO CLASS 1. date: 2/16/91

name:

SOILS: RESOURCE CONCERNS: No soils concerns date:name: R. Hueschen

WILDLIFE:

RESOURCE CONCERNS: No additional loss of habitat. Vehicle access undesirable after logging. date: 2/12/92

name: M.J. Weber

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

date: 2/6/91

name:

CULTURAL:

RESOURCE CONCERNS:

date:

name:

Reviewed by:

date:

title:

Interdisciplinary Team Leader

James S. Burrows Burrowski

date: 2/20/91

GMA-1900-06

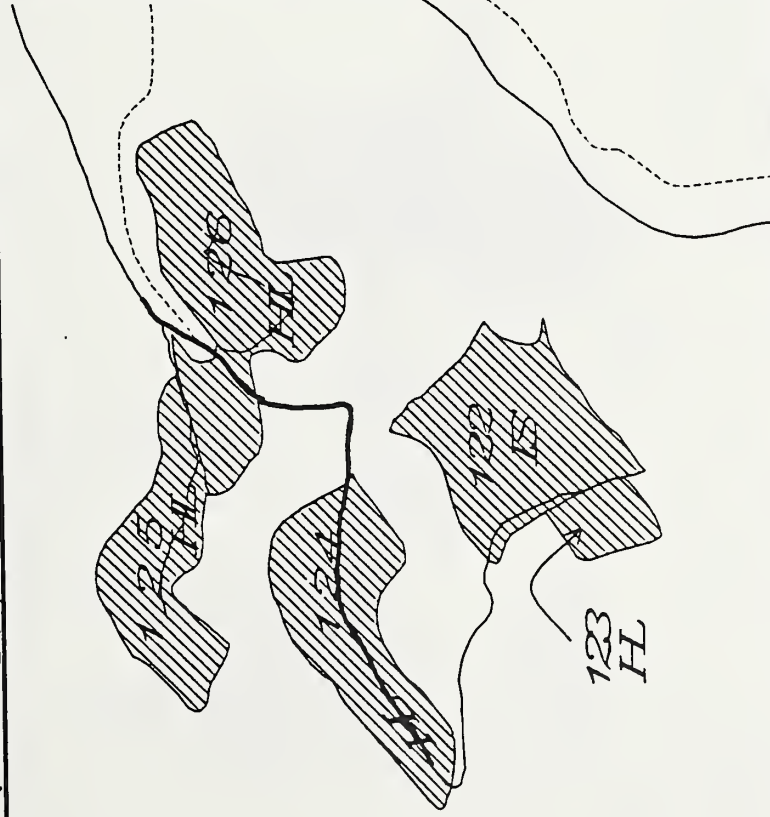


## ROAD DESIGN CARD

ROAD SEGMENT # 75882 (N) MILES

STATEMENT OF INTENT BY IDT: USE NATURAL LANDSCAPES TO SCREEN ROAD GOING THRU UNIT 124 FROM VIEWS IN RUDMAN AND PERIL STRAIT. IF FISH PASSOUT, ALLOW FOR FISH PASSAGE. LOSS OF DUNE WINTER RANGE.

VCU 293 122, 123 Map Index SYNLA 84 NW  
 Units Accessed 124, 125, 126  
 PHOTO INFO: YR 1976 FLT LN 31 STEREO PR 1076-157/158  
 1/4 QUAD ID: 84 NW



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 75882N

Map scale 1:11640  
 1/4 1/2

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: INITIAL CROSSING, CAN BE DONE BY A LARGE CURRENT. KEEP FILL LOW TO REDUCE EXPOSURE. FIRST 104 MILES TO BE BUILT AS SPOT REPAIRS, REMAINING TO BE A TEMPORARY.

name: J. C. C. C. date: 2/19/91

TIMBER-LOGGING: RESOURCE CONCERNS: Units 125 and 126 may need to be accessed in 3-5 years for planning. Unit 122 may need to be accessed in 20-25 years for commercial thinning. There is abundant volume available for future harvest.  
 name: Hubbard R. Zabriskie date: 2/16/91

FISHERIES & HYDROLOGY: RESOURCE CONCERNS: A2 or - class II, may require dredge for King. currently sized + dredged current on V-NORTH BY UNIT 122. DFK 1/19/91 Fisheries. control of excavation, sidecast material, and in-channel operations at this crossing. (SVP 10/27/91)

name: Use log stinger bridge to cross Class 2 stream. 1/98

SOILS: RESOURCE CONCERNS: Road is located near a small, steep, unstable area between Units 122 and 123. Recommended that the actual location does not cross these hazardous soils.  
 name: R. Albrecht date: 2/12/91

WILDLIFE: RESOURCE CONCERNS: Loss of DWR and marten habitat. Vehicle access undesirable following logging because of impacts to brown bear and marten.

name: INT. WEBER date: 2/6/91

RECREATION & VISUAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

title: Jim S. Bennett Bengard date: 2/20/91  
 Interdisciplinary Team Leader

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # **75884** MILES

STATEMENT OF INTENT BY IDT: HYDROLOGY TO BE INVOLVED IN LAYOUT TO DETERMINE IF A BRIDGE IS NEEDED. IF FISH ARE PRESENT, ALLOW FOR FISH PASSAGE. LOSS OF BONE WINTER RANGE AND MARTIN HABITAT. CROSS DRAINAGE IN A CONFINED AREA TO REDUCE BRIDGE LENGTH ON FILL REQUIREMENTS. Future access for precommercial fishing VCU <b>293</b>		ROAD MGT OBJ. SYNOPSIS	
Units Accessed <b>116, 117, 118</b> Map Index <b>SITKA BH-11W</b>		Road Management Objectives are on file in Chatham SO.	
PHOTO INFO: YR <b>19 77</b> FLT LN <b>31</b> STEREO PR <b>1076-153/154</b>		ROADS: RESOURCE CONCERNS: CROSSING ON CUPS I ON IT MAY NOT BRIDGE. CROSS DRAINAGE IN A CONFINED AREA TO REDUCE BRIDGE LENGTH. IF NO FISH PASSAGE MAY BE ABLE TO USE COLLECT. SHORT TERM USE OF ROAD ANTICIPATED. name: <b>CRS</b> date: <b>2/19/91</b>	
1/4 QUAD ID:		TIMBER-LOGGING RESOURCE CONCERNS: Unit 118 may need to be accessed in 20-25 years for precommercial thinning.	
		name: <b>Richard R. Zolman</b> date: <b>2/16/91</b>	
		FISHERIES & HYDROLOGY: RESOURCE CONCERNS: CRUSSE'S B3 CT, 72470 LCHAF ACCESSING IN CONFINED SEGMENT OF CHANNEL. DFR 10/18/91. ACCURATE SEDIMENT DELIVERY AROUND AND AROUND THE B3 CT. AS A RESULT, USE log string bridge on Class 2 crossing in confined channel area. Vg.	
		SOILS: RESOURCE CONCERNS: Major stream crossing - see hydrology recommendation. name: <b>R. H. Hatcher</b> date: <b>2/12/91</b>	
		WILDLIFE: RESOURCE CONCERNS: Loss of Owl and Martin habitat. Access is undesirable because of impacts to brown bear and martin name: <b>M. J. Webster</b> date: <b>2/6/91</b>	
RECREATION & VISUAL: RESOURCE CONCERNS:		name: date:	
CULTURAL: RESOURCE CONCERNS:		name: date:	
Reviewed by:		name: date:	
title: <b>James S. Bland, Regional Interdisciplinary Team Leader</b> date: <b>2/20/91</b>		CMA-1900-06	

☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS  
☒ ROAD NUM **75884**  
 1/4 1/2 MILES  
 Map scale 1:10000



## ROAD DESIGN CARD

ROAD SEGMENT # 7722 (R) MILES

STATEMENT OF INTENT BY IDT: PROVIDE FOR FISH PASSAGE, IN CLASS I OR II STREAM NEAR LTF, WILL NEED VARIANCE ON EAGLE TREE ALONG BOACH.

VCU 293  
Units Accessed ALL N. UNITS Map Index SITKA B4 NWPHOTO INFO: YR 1976 FLT LN 33 STEREO PR 376-125  
1/4 QUAD ID: B 4 NW

PLANNED (ARTHO PHOTO) SCALE:



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7722 R

0 ————— 2 Miles  
 Map scale 1:74914

ROAD MGT OBJ.  
SYNOPSISRoad Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: KEEP CLEARING TO A MINIMUM TO REDUCE VISUAL CONCERNS.name: J. Lee date: 2/19/91  
TIMBER-LOGGING: RESOURCE CONCERNS: There are 10 units which may need to be accessed in 3-5 years for planning. There are 2 units which may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest.  
name: Richard R. Zaborie date: 2/16/91

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY: No hydrologic concerns Dk 10/24/90Provide for fish passage on Class 1 stream near old LTF. Vgs.name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: RESOURCE CONCERNS: Moderate mass movement hazard along road but remediation should be all right.name: R. M. Hurd date: 2/12/91  
WILDLIFE: RESOURCE CONCERNS: No additional loss of habitat. Eagle Tree variance probably needed, Access undesirable because of impacts on brown bear and moose.  
name: M. J. Weber date: 2/6/91

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: RESOURCE CONCERNS:name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed by:title: James S. Bernard Baginski date: 2/20/91  
Interdisciplinary Team Leader

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 7722 (N) MILES

STATEMENT OF INTENT BY IDT: HYDROLOGY AND FISHERIES TO BE INVOLVED IN LOCATION AND NEED OF BRIDGES ON CLASS I STREAM, SOILS AND HYDROLOGY TO PROVIDE INPUT IN LOCATION OF ROAD BETWEEN UNITS 147 AND 150. CONCERN WITH LOSS OF DEER WINTER RANGE. KEEP CROSSINGS IN "V" NOTCHES LOW.

VCU 293-294 Map Index SITKA 134 NW  
 Units Accessed NORTH VCU  
 PHOTO INFO: YR 19 77 FLT LN 34 STEREO PR 1076-1861  
 1/4 QUAD ID: 84 NW 35 376-293/294



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7722N

1 Miles  
 Map scale 1:74914

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: IF CULVERT USED ON CLASS I STREAM, USE 12' GRADIENT. LOCATION OF ROAD BETWEEN UNITS 147 AND 150 IS THE FIRST 2.40 MILES OF THIS ROAD. ADDITIONAL TIMBER FOR FUTURE HARVEST.

name: if left date: 2/20/91

TIMBER-LOGGING RESOURCE CONCERNS: There are 8 units which may need to be accessed in 3-5 years for planting. There are 2 units which may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest. name: Richard R. Johnson date: 2/16/91

FISHERIES & RESOURCE CONCERNS: Bridge required on each of

HYDROLOGY: SPECIFIC CROSSING LOCATIONS SIZED & BIDDING ACCORDING TO V-MOTCHES DFC 10/24/90.

fish passage on class I near start of new construction. 1988  
 name: 1988 date: 1988

SOILS: RESOURCE CONCERNS: Road will cross noninvasive V-notches. Slope gradients are not overstepped but some compact fill is present.

name: R. Johnson date: 2/12/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Access undesirable because of impacts to brown bear and marten

name: M.J. Weber date: 2/6/91

RECREATION & RESOURCE CONCERNS:

VISUAL:

name: date:

CULTURAL: RESOURCE CONCERNS:

name: date:

Reviewed by:

title: Interdisciplinary Team Leader date: 2/20/91  
James S. Deane Bengtson

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 77221 MILES

STATEMENT OF INTENT BY IDT: CONCERN WITH LOSS OF DEER WINTER RANGES. HYDROLOGY TO BE INVOLVED WITH SIZING OF THE PIPE.

VCU 293  
Units Accessed 149, 150 Map Index SITKA B-4NW  
PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376-293/1294  
1/4 QUAD ID: B4 NW

- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 77221

Map scale 1" = 1/4 mile

ROAD MGT OBJ.  
SYNOPSISRoad Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: ONLY THE FIRST 0.17 MILES IS PLANNED TO BE LONG TERM BECAUSE OF FUTURE ACCESS NEEDS. THIS PORTION OF ROAD HAS STEEP TRANSITION GRAD. TEMPORARY STOPS WILL ACCESS OTHER UNITS FROM THE END OF THE ROAD.  
name: Carl date: 2/2/91

TIMBER-LOGGING RESOURCE CONCERNS: No concerns.

name: Raymond R. Zaborie date: 2/16/91  
FISHERIES & RESOURCE CONCERNS: CONSIDERABLY SIZE & BED COMPLEX  
HYDROLOGY: OF V-NOTICE. DFK 10/29/90. LOW TO MODERATE  
SEDIMENT DILUENTLY REMOVED. NO FISH CONCERNS. VGS.name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: RESOURCE CONCERNS: No soils concernsname: R. Hucker date: 2/12/91  
WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.  
Access undesirable because of impacts to brown bear and marten.  
name: M. J. Weber date: 2/6/91  
RECREATION & RESOURCE CONCERNS:  
VISUAL:name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: RESOURCE CONCERNS:name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed by:title: James S. Burns, Deputy date: 2/20/91  
Interdisciplinary Team Leader

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 7723

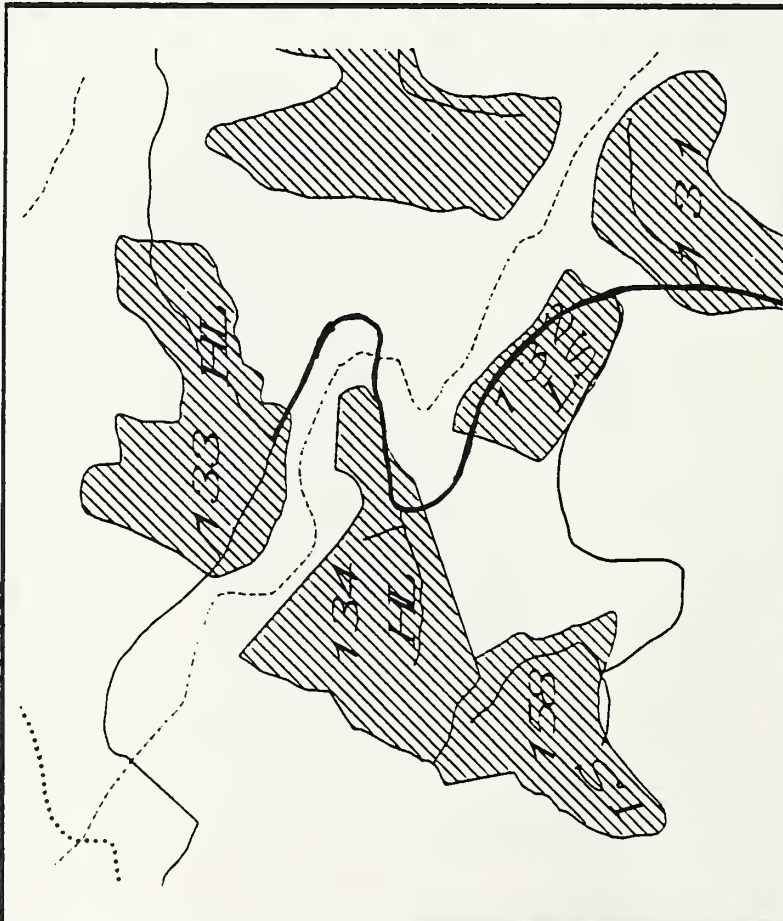
MILES

STATEMENT OF INTENT BY IDT: HYDROLOGY AND SOILS TO PROVIDE INPUT FOR CROSSING ON CLASS II STREAMS, BETWEEN UNITS 133 AND 131, UTILIZE THE NATURAL LANDSCAPE TO SCREEN ROAD CUTS FROM VIEWS IN APPALACHIAN COVE.

VCU 293

Units Accessed 134, 135, 131, 158 Map Index SIXA 34 NW

PHOTO INFO: YR 19 77 FLT LN 34 STEREO PR 1076-186

1/4 QUAD ID: 84 NW☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 7723

Map scale 1" = 12694'

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ROAD ACCESSORS A MAINTENANCE OF UNITS, ONLY THE FIRST 0.41 IS NEEDED FOR LONG TERM ACCESS. IF CULVERT IS USED AT CLASS II CROSSING, USE OVERSIZE PIPE TO REDUCE CONCERNS OF SOILS.

name:

date: 2/22/91

TIMBER-LOGGING RESOURCE CONCERNS: Units 134, 158 may need to be accessed in 3-5 years. There is additional volume available beyond unit 158 for future harvest.

name:

date: 2/16/91

FISHERIES & RESOURCE CONCERNS: BRIDGES ARE REQUIRED FOR HYDROLOGY: CROSSING DETOUR NEEDED (AS PER CONTRACT, DUE 10/15/90).

then concern due to that SEDIMENT TRANSPORT CAPABILITY TO CROSS A STREAM. Provide for fish passage on Class 2 stream. VGS.

name:

date:

SOILS: RESOURCE CONCERNS: Road will cross areas underlain by compact fill, and there will be some V-notch crossings.

name:

date: 2/12/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.

name:

date: 2/6/91

RECREATION & RESOURCE CONCERNS: VISUAL:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

date: 2/20/91

James S. Bernal / Bryan Maki  
Interdisciplinary Team Leader

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 77231 MILES

STATEMENT OF INTENT BY IDT: BECAUSE OF RIDGE TOP LOCATION, USE NATURAL LANDSCAPE TO SCREEN ROAD CUTS FROM VIEW IN APPLETON. MODERATE SOIL CONCERNS.

VCU 293 Map Index SITKA B4 NW  
 Units Accessed 158  
 PHOTO INFO: YR 1977 FLT LN 34 STEREO PR 1076-1851  
 1/4 QUAD ID: B4-NW



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 77231

Map scale: 1" = 12694'

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: TRY TO KEEP ROAD ON BACK SIDE OF RIDGE TO SCREEN FROM VIEW IN APPLETON. THE TOWN AND GRADE DICTATE THAT A SACRIFICED ROAD BE BUILT.

name: A. Carter date: 2/22/91  
 TIMBER-LOGGING RESOURCE CONCERNS: Unit 158 may need to be accessed in 3-5 years for planting. There is additional volume available beyond unit 158 available for future harvest.

name: Richard R. Zaborie date: 2/16/91  
 FISHERIES & RESOURCE CONCERNS: LOW TO MODERATE SOIL HAZARD BUT MODERATE TO HIGH SEDIMENT DELIVERY + TRANSPORT POTENTIAL

No fish concerns - 198.

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: RESOURCE CONCERNS: No soils concerns.

name: R. Huerfano date: 2/12/91  
 WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.

name: M.J. Weber date: 2/6/91  
 RECREATION & RESOURCE CONCERNS:  
 VISUAL:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 Reviewed by:

title: James S. Burnett Beuprade date: 2/20/91  
Interdisciplinary Team Leader

## ROAD DESIGN CARD

ROAD SEGMENT # 7724 MILES

STATEMENT OF INTENT BY IDT: UTILIZE NATURAL LANDFORMS FROM UNIT 128 TO THE END TO SCREEN ROAD CUTS FROM VIEWS IN PAVIL STRAIT. SOILS TO BE INVOLVED DURING ABOUT 0.1 ROAD IN UNITS 218 AND 219.

VCU 2932294  
Units Accessed 218, 219, 155, 145 Map Index SILKA B-YAW  
PHOTO INFO: YR 19 76 FLT LN 34 STEREO PR 1076-186  
1/4 QUAD ID: B4-AW 35 376-293



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7724

1/4 1/2 Miles  
Map scale 1:27639

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: THE FIRST 0.83 MILES IS PLANNED TO BE LONG TERM. ROAD ROAD V.P. WILL BE THE BROOK FROM UNIT 128 TILL THE END TO ROAD ROAD CUTS DOWN. SOILS CONCERN IN UNIT 219.

name: P. Carter date: 2/23/91  
TIMBER-LOGGING RESOURCE CONCERNS: Unit 219 may need to be addressed in 3-5 years for fudge hunters.

name: Richard R. Zaborne date: 2/16/91

FISHERIES & RESOURCE CONCERNS: NO CONCERNS, EXCEPT WATER

HYDROLOGY: NO CONCERNS

ROAD SUBSIDENCE DUE TO ROAD CUTS SEE SMALL ROAD SIGNIFICANT AT END OF ROAD, WOULD NO CONCERN FOR THIS ROAD.

No fish concerns. Vgs.

name: Richard R. Zaborne date: 2/16/91

SOILS: RESOURCE CONCERNS: Numerous V-notch crossings. Road crosses hazardous soils along northern boundary of Unit 219 in VCU 294.

name: R. Huerter

WILDLIFE: NO CONCERNS

name: 2/12/91

name: M. J. Weber date: 2/6/91

RECREATION & RESOURCE CONCERNS:

VISUAL: NO CONCERNS

name: NO CONCERNS

CULTURAL: RESOURCE CONCERNS:

name: NO CONCERNS

Reviewed by: NO CONCERNS

title: Interdisciplinary Team Ladder

James S. Burns Burns  
date: 2/20/91

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 77241

MILES

STATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEW IN PEARL STRAIT. SOILS TO REMAIN UNCHANGED DURING CONSTRUCTION.

VCU

293

Units Accessed

128

Map Index

SITE 84-NW

PHOTO INFO:

YR 19 77

FLT LN 34

STEREO PR 076-184

1/4 QUAD ID:

B-4 NW

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 77241

0 1/4 1/2 Miles  
Map scale 1:25000

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: TERMINAL AND GRADES  
INDICATE THAT A SPECIFIC ROAD IS NEEDED HERE.

name:

date: 2/20/91

TIMBER-LOGGING: RESOURCE CONCERNS: Unit 128 may need to be  
accessed in 3-5 years for planning.

name:

date: 2/16/91

FISHERIES &  
HYDROLOGY:

RESOURCE CONCERNS:

NO CONCERNS DFK 12/24/80  
MODERATE SOIL HAZARD WITH PLENTY STORMWATER DETENTION  
FOR CLOSURE 1/3 AND THAT TRAVELER CAPABILITY TO CLIMB IT

No fish concerns. VGS.

name:

date:

SOILS: RESOURCE CONCERNS: Road appears to cross an old  
slide path south of road 128

name:

date: 2/12/91

WILDLIFE:

RESOURCE CONCERNS:

date: 2/12/91

Loss of wildlife habitat

name:

date: 2/6/91

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

date: 2/6/91

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 7725 MILES

STATEMENT OF INTENT BY IDT: WILL NEED A BRIDGE AT THE CLASS I STREAM CROSSING. ALLOW FOR FISH PASSAGE AND POOR FLOWS. THE CLASS II STREAM CROSSING CAN BE DONE WITH AN OVERSIZE CULVERT.

VCU 293 154, 138, 136, 137, 139 Map Index SITKA 4-B NW  
Units Accessed 140, 141, 143, 144PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376-294  
1/4 QUAD ID: 84-NW 77 1076-185/186

- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS I & 2 STRMS

☒ ROAD NUM 7725

1/4 1/2 Miles  
 Map scale 1:2555

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: THE FIRST MILE IS A ROAD TO BE LONG TERM. A BRIDGE WILL BE NEEDED AT THE OUT FLOW OF THE LAKE. A CULVERT CAN BE UTILIZED AT THE CLASS II STREAM CROSSING. EXCEPT FOR THE CROSSING, ROAD OUT OF THE STREAM BUFFER IN UNIT 154. name: Richard P. Zolner date: 2/20/91

TIMBER-LOGGING RESOURCE CONCERNS: Units 136, 138, 139, 140 may need to be accessed in 3-5 years for planning. Units 143, 144 may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest. name: Richard P. Zolner date: 2/16/91

FISHERIES & RESOURCE CONCERNS: CLASS I CROSSINGS, RIVERS HYDROLOGY: REQUIRED TO INSURE FISH PASSAGE AND FISH HABITAT. MODERATE SOIL HAZARD BUT THAT SUBSTANTIAL DIETARY POTENTIAL. 2 CRUISE CLASSES OF STREAM CROSSINGS. Use bridges or two class stream crossings to ensure fish passage. VSS. name: Richard P. Zolner date: 2/16/91

SOILS: RESOURCE CONCERNS: Road crosses near an area of hazardous soils along the northern boundary of Unit 144. Recommend that road stay clear of this area. name: R. Hueschen date: 2/12/91

WILDLIFE: RESOURCE CONCERNS: loss of wildlife habitat. name: M. J. Weber date: 2/6/91

RECREATION & VISUAL: RESOURCE CONCERNS: name: M. J. Weber date: 2/6/91

CULTURAL: RESOURCE CONCERNS: name: M. J. Weber date: 2/6/91

name: M. J. Weber date: 2/6/91  
 Reviewed by: M. J. Weber date: 2/6/91

title: Interdisciplinary Team Leader date: 2/20/91  
 CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 77251 MILESROAD MGT OBJ.  
SYNOPSISSTATEMENT OF INTENT BY IDT: BECAUSE OF HIGH SEDIMENT  
POTENTIAL, THIS SHOULD BE A SPECIFIED ROAD TO RESERVE  
ROAD CUTS AND FILLS.VCU 293 Map Index SITKA B4 NW  
Units Accessed 144PHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376-294  
1/4 QUAD ID: B4-NW

- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 77251

1/4 1/2 MILES  
 Map scale 1:24355

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ROADS ROAD CUTS AND FILLS  
TO A MINIMUM, NO ROCK PITS TO BE LOCATED HERE.name: J. Lutz date: 2/20/91  
TIMBER-LOGGING RESOURCE CONCERNS: Unit 144 may need to be  
accessed in 20-25 years for pre commercial thinning.name: Richard R. Zalorke date: 2/16/91  
FISHERIES & RESOURCE CONCERNS: HEAVY CONCRETE DEFIC 10/24/80  
HYDROLOGY: DISCOVER SOIL HAZARD BUT VERY HIGH SEWAGE  
DELIVERY RISKING TO CLASS 1. 2-2-80  
no fish concerns 1/98name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: RESOURCE CONCERNS: Road crosses area at  
moderate mussel inclement hazard.name: R. Huxford date: 2/12/91  
WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.name: M. J. Weber date: 2/6/91  
RECREATION & RESOURCE CONCERNS:  
VISUAL:name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: RESOURCE CONCERNS:name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed by:title: Kevin S. Bernard Beupresole date: 2/20/91  
Interdisciplinary Team Leader

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 77254 MILES

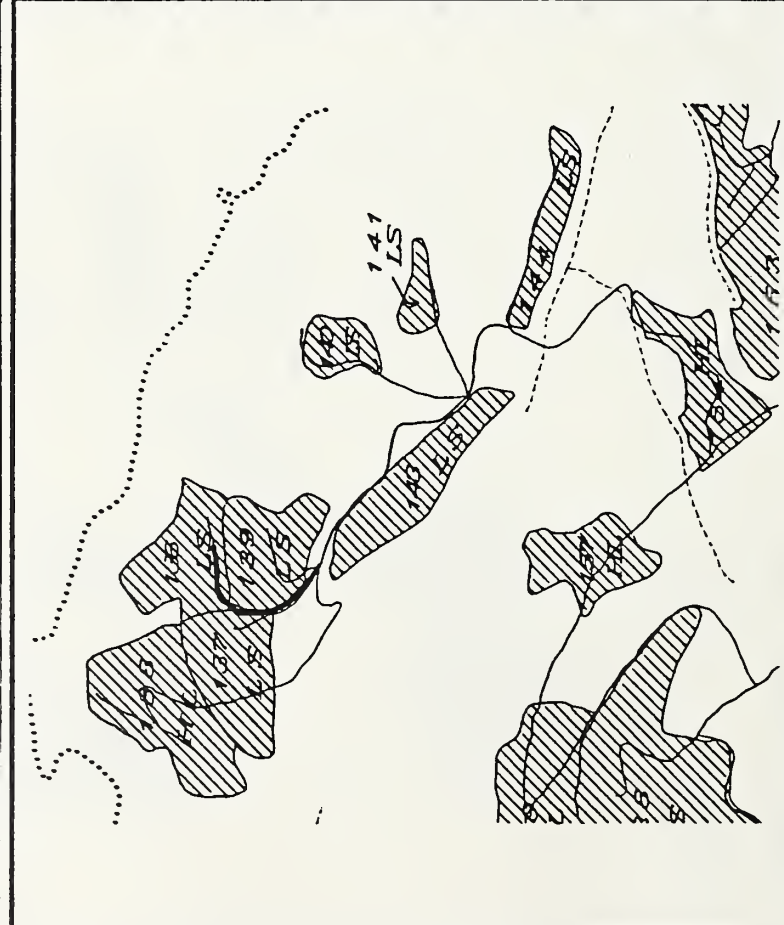
STATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEW IN PERUL STRAIT, HYDROLOGY TO BE INVOLVED IN DESIGN ON CLASS III STREAM CROSSING.

ROAD MGT OBJ.  
SYNOPSIS

VCU 293 Units Accessed 136,139 Map Index SITKA B4-NW

PHOTO INFO: YR 1977 FLT LN 34 STEREO PR 1076 185

1/4 QUAD ID: B4 NW



- ☒ ACCESS RDS
- ☒ SHORE LINES
- ☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 77254

1/4 1/2 Miles  
Map scale 1:2455

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: FIRST 0.17 miles to BE LONG TERM BECAUSE OF RE-ENTRY ROADS.

name: P. Lutz date: 2/20/91

TIMBER-LOGGING RESOURCE CONCERNS: Units 136 and 139 may need to be accessed in 3-5 years for planting.

name: Richard R. Zabrato date: 2/16/91

FISHERIES & RESOURCE CONCERNS: Small distance requires hydrology: considerably sized mud added creek; DFC w/ 19/91.

No fish concerns VGS.

name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS: RESOURCE CONCERNS: No soils concerns

name: R. Huerker date: 2/12/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.

name: M.J. Weber date: 2/6/91

RECREATION & RESOURCE CONCERNS: VISUAL: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL: RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

title: James S. Burns, Beaver Lake date: 2/20/91

Interdisciplinary Team Leader

CMA-1900-06



STATEMENT OF INTENT BY IDT: BECAUSE OF NEARNESS TO  
ANCHORAGE, USE NATURAL LANDFORMS TO SCREEN  
ROAD CUTS AND FILLS FROM VIEWS IN ADJACENT CREEK.  
CONCERN FOR LOSS OF WILDLIFE HABITAT.

VCU 293  
Units Accessed 103, 127, 103, 104 Map Index SITKA B4 NW  
PHOTO INFO: YR 19 76 FLT LN 324 STEREO PR 476-191/  
1/4 QUAD ID: B4 NW 192



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7727

1/4 1/2 Miles  
Map scale 1:25978  
STREAMSIDE ZONE

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: USE CULVERT TO CROSS THE  
CLASS II STREAM. IF FISH ARE PRESENT, PROVIDE FOR  
FISH PASSAGE BY USING CULVERT GRADIENT OF 1%.

name: A. C. Smith date: 2/20/91  
TIMBER-LOGGING: RESOURCE CONCERNS: Units 104 and 127 may need  
to be accessed in 3-5 years for planting. There is additional  
volume available for future harvest.

name: Richard R. Zaborie date: 2/16/91  
FISHERIES & RESOURCE CONCERNS: CLASS II FISH STREAM, IF USE  
HYDROLOGY: CULVERT WORKING SCHEDULED TO INSURE FISH  
PASSAGE. DFC 10/28/90.

*Provide for fish passage on Class II streams. VGS*

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: RESOURCE CONCERNS: Some V notch crossings  
but no serious soils concerns.

name: R. L. Hatcher date: 2/12/91  
WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.  
Ref. starts in estuary fringe. Vehicle access undesirable because  
of impacts to brown bear and marten.

name: W. L. Wether date: 2/6/91  
RECREATION & RESOURCE CONCERNS:  
VISUAL:

name: \_\_\_\_\_ date: \_\_\_\_\_  
CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed by:

title: James S. Bernard Beggs date: 2/20/91  
Interdisciplinary Team Leader

## ROAD DESIGN CARD

ROAD SEGMENT # 7728 MILES

STATEMENT OF INTENT BY IDT: CLEAR ONLY WHAT IS  
NEEDED FOR ACCESS AND SAFETY, TO REDUCE  
VISUAL CONCERNS.VCU 293  
Units Accessed LTF

Map Index Sika

PHOTO INFO: YR 19 FLT LN STEREO PR  
1/4 QUAD ID:

- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM

1/4 1/2 Miles  
 Map scale 1:25970

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ROAD WILL NOT AFFECT  
LAVON OF RACK THIS IS THE ROAD TO THE LTF.

name:

date: 2/24/91

TIMBER-LOGGING RESOURCE CONCERNS: There is additional volume  
available in this VCU available for future harvest.

name: Richard R. Zuckerman

date: 2/16/91

FISHERIES &  
HYDROLOGY: RESOURCE CONCERNS:

name:

date:

SOILS: RESOURCE CONCERNS:

name:

date:

WILDLIFE: RESOURCE CONCERNS: No additional loss of habitat.  
Deny access to vehicles after sale to mitigate impacts to bears and  
wildlife. Rd. w/in estuary fringe.

name: M.T. Weber

date: 2/6/91

RECREATION &  
VISUAL: RESOURCE CONCERNS:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: 2/20/91

GMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # **7729** MILES

STATEMENT OF INTENT BY IDT: CLASS I STREAM CASSINUS  
WILL NEED A BRIDGE. USE NATURAL LANDFORMS IN UNIT  
106 TO SCREEN ROAD CUTS FROM VIEW IN ADJACENT CUE.  
ALLOW FOR FISH PASSAGE IN CLASS I STREAM.

VCU **293** **112, 113, 111**  
Units Accessed **107, 106, 105** Map Index **STRM 84 NW**  
PHOTO INFO: YR **19 76** FLT LN **32A** STEREO PR **476-192/**  
1/4 QUAD ID: **B4 NW** **193**



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

1/4 1/2 Miles  
Mapscale 1:59489

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: THE FIRST 1.87 MILES  
WILL NEED TO BE LONG TERM FOR FUTURE HARVEST  
WOODS.

name:

*Robert R. Zuber*date: **2/20/91**

TIMBER-LOGGING RESOURCE CONCERNS: UNITS 112 and 113 may need  
to be accessed in 3-5 years for planning. Units 111 and 113 may  
need to be accessed in 20-25 years for precommercial thinning.

name: **Robert R. Zuber** date: **2/16/91**

FISHERIES & RESOURCE CONCERNS: CLASS I STREAM WISCONSIN AT  
HYDROLOGY: ACCESSING OF ROAD. BRIDGE REQUIRED. DFK 1/24/91

(2 CHANNEL FISH, MODERATE FISH HABITAT, SHAD SED. DUCK  
HABITAT - MODERATE CHANNEL, USE BRIDGE TO ensure fish  
passage on Class I stream - VGS.

name:

date:

SOILS: RESOURCE CONCERNS: Numerous V-notch crossings  
and road crossings some areas with a moderate to high mass  
movement potential.

name: **W. H. Hoocher** date: **2/12/91**

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.

name: **M. J. Weber** date: **2/6/91**

RECREATION & RESOURCE CONCERNS:  
VISUAL:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: **2/20/91**

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 77291 MILES

STATEMENT OF INTENT BY IDT: SOILS AND HYDROLOGY TO BE INVOLVED IN LAYOUT AND DESIGN. LOSS OF WILDLIFE HABITAT.

VCU

Units Accessed 293107

Map Index

SITKA 84NWPHOTO INFO: YR 1976FLT LN 32ASTEREO PR 476-19211/4 QUAD ID: 84 NW193☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 77291

0 ——— 1/4" ——— 1/24" ———  
Map scale 1:14087

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: TERMINAL AND CANOE DICTATE THAT A SPECIFIC ROAD SHOULD BE USED NAME. NO ROCK PITS TO BE OVERLAP ALONG ROAD

name:

date: 2/20/91

## TIMBER-LOGGING

RESOURCE CONCERNS: No concerns.name: Richard R. Zuberdate: 2/16/91FISHERIES &  
HYDROLOGY:

RESOURCE CONCERNS: 2 small V-notches flow into class 1, currently sized below curvatures in present water quality. Assisted of peak flows, possibly 10/24/90. After some thinned, high summer density immediately class 1 stream. No fish concerns. Vgs.

name:

date:

## SOILS:

RESOURCE CONCERNS: Road crossing hazardous soils - recommend soils input during layout.

name: P. H. Weberdate: 2/12/91

## WILDLIFE:

RESOURCE CONCERNS: Loss of wildlife habitat.name: M. J. Weberdate: 2/6/91RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

## CULTURAL:

RESOURCE CONCERNS:

name:

date:

## Reviewed by:

title:

James S. Beard Beard  
Interdisciplinary Team Leader date: 2/20/91

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # APPLETON LTF MILES

STATEMENT OF INTENT BY IDT: UTILIZE AND REBUILD OLD LTF. USE VEGETATIVE COVER TO SCREEN CAMPSITE FROM VIEWS IN PENIL STRAIT UTILIZE WATER SOURCE FROM CLASS II STRIPWAY WEST OF SITE, PROVIDE FOR FUEL STORAGE NEAR BACK OF LTF AREA.

VCU 243

Units Accessed ALL VCU 243

Map Index \_\_\_\_\_

PHOTO INFO: YR 19 \_\_\_\_\_ FLT LN \_\_\_\_\_ STEREO PR \_\_\_\_\_

1/4 QUAD ID: \_\_\_\_\_

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM LTF

1/4 1/2 Miles  
Map scale 1:25978

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: ROAD 7728 TO LTF SITE. RESOURCE CONCERNS: RE-ROCK AND SHAPE

name: \_\_\_\_\_

TIMBER-LOGGING

RESOURCE CONCERNS: There is additional Volume available in this LTF shed for future harvest.date: 2/19/91name: Richard R. Zalkow  
FISHERIES &  
HYDROLOGY: \_\_\_\_\_

RESOURCE CONCERNS:

Impacts to marine biota due to bark accumulation and log storage. Would prefer another site. Vgs. 2/19/91date: 2/19/91

name: \_\_\_\_\_

SOILS: \_\_\_\_\_

RESOURCE CONCERNS: No soils concerns

date: \_\_\_\_\_

name: R. Huerfano

WILDLIFE: \_\_\_\_\_

RESOURCE CONCERNS: Concentration of activities may disturb wildlife use of estuary and entire Cove.date: 2/25/91name: M. Twibber

RECREATION &amp;

VISUAL: \_\_\_\_\_

RESOURCE CONCERNS:

SEE INITIATION MEASURES - REQUEST CAMP, USE ALTERNATE HARBOR PARKING PLACEdate: 2/25/91name: R. Huerfano

CULTURAL: \_\_\_\_\_

RESOURCE CONCERNS:

date: 2/25/91

name: \_\_\_\_\_

Reviewed by: Thadde potential effects to marine biota in EIS

date: \_\_\_\_\_

title: \_\_\_\_\_

James S. Beard Bryan  
Interdisciplinary Team Leaderdate: 2/27/91

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # Rodman Bay LTF

STATEMENT OF INTENT BY IDT: DO MINIMUM CLEARING TO REMOVE VISUAL IMPACTS. WATER SOURCE IS ADJACENT TO THE CAMPO AGRO. IT IS PROBABLY A CLASS II STREAM. THIS IS A BULKHEAD LOCATION WHICH WOULD NEED AN A-FRAME. THIS WAS AN ALTERNATE SITE WHICH WILL PROBABLY BE UTILIZED IN THE FUTURE TO MINIMIZE VCU'S 288-292.

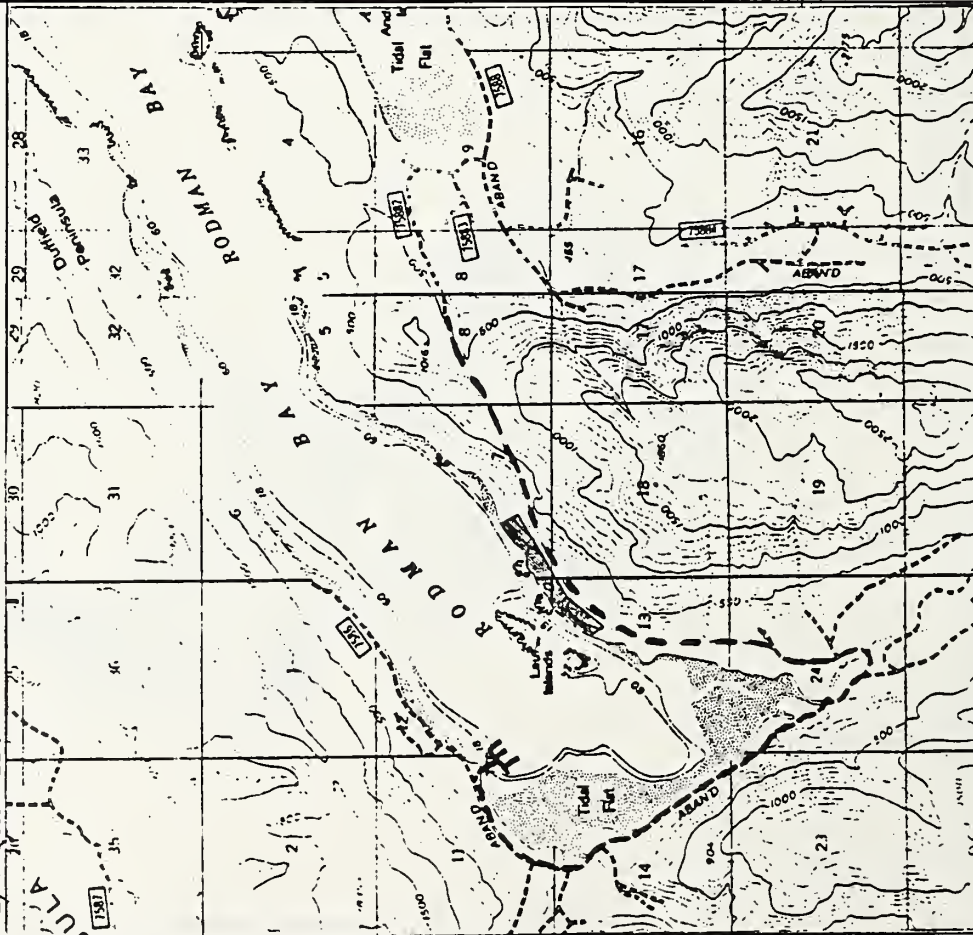
VCU 292/293

Units Accessed

Map Index

PHOTO INFO: YR 19 FLT LN STEREO PR

1/4 QUAD ID:

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ACCESS TO THIS LTF SITE WOULD REQUIRE 2.5 MILES OF NEW CONSTRUCTION AND ADDITIONAL 4 MILES OF ROADS. LOG BRIDGES ARE ALSO NEEDED WITH THIS IN ADDITIONAL 3-4 LOG BRIDGES ARE ALSO NEEDED WITH THIS ROUTE. A 1.0 MILE PORTION ALONG THE SOUTH WEST REACH OF THE ESTUARY IS LOCATED OF UNSTABLE MATERIAL. date: 2/20/91

## TIMBER-LOGGING RESOURCE CONCERNS:

There is additional volume available in this LTF-shed for fudge harvest.

name: Richard R. Gaborie date: 2/27/91

FISHERIES &  
HYDROLOGY:

## RESOURCE CONCERNS:

accumulative potential. Class 1 stream w/ possible ungrazed channels (class 1) to the southeast. date: 2/26/91. Significant channel and riparian habitat. name: concern for road access to LTF. Concerning the date: 2/26/91. name: concern for road access to LTF. Concerning the date: 2/26/91.

## SOILS:

RESOURCE CONCERNS: No soils concerns with LTF.

name: R. Huescher

date: 2/26/91

## WILDLIFE:

RESOURCE CONCERNS: Wildlife disturbance in the estuary fringe. No additional habitat loss.

name: M. Turek

date: 2/26/91

RECREATION &  
VISUAL:

## RESOURCE CONCERNS:

name:

date:

## CULTURAL:

## RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: 2/27/91

CMA-1900-06

-E Log Transfer Facility



# ROAD DESIGN CARD

ROAD SEGMENT # Southeast Rodman Bay LTF

ROAD MGT OBJ.  
SYNOPSIS

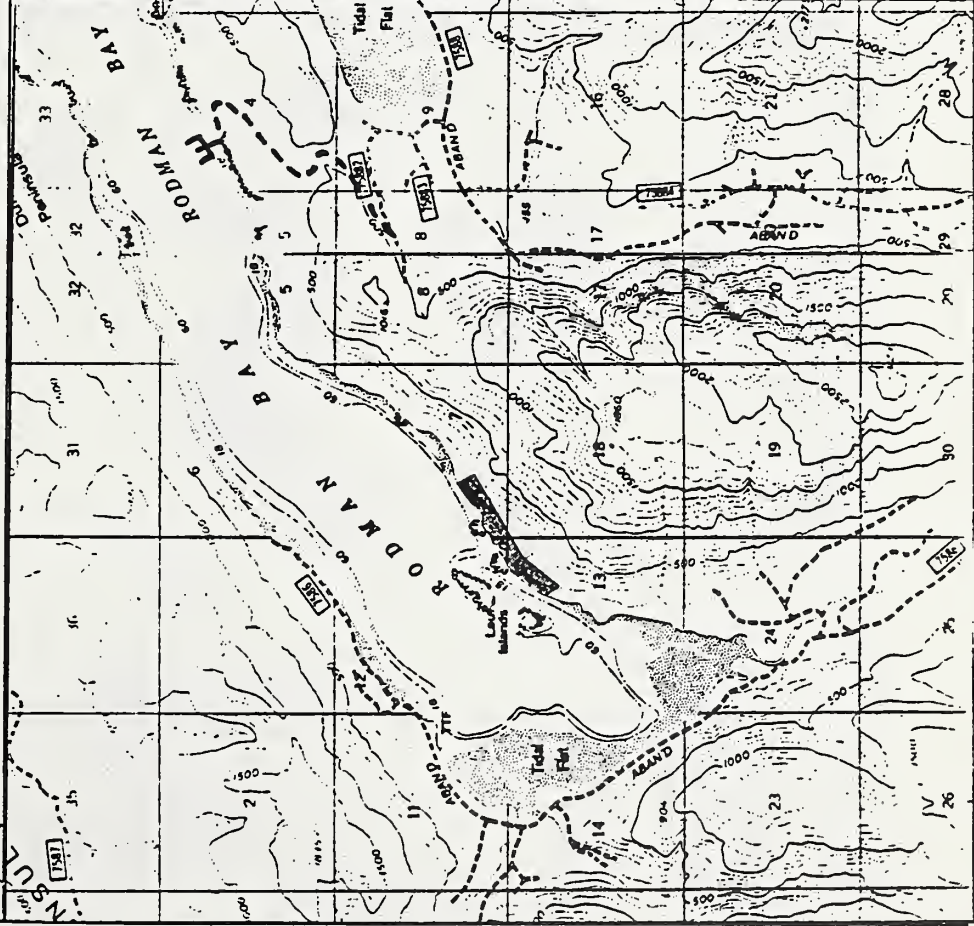
STATEMENT OF INTENT BY IDT: THIS IS AN ALTERNATE PROPOSED LTF. THIS WOULD BE A SLIDE OFF THE FACILITY MAINTAIN A VEGETATIVE SCREEN PAST THE CAMP TO THE LTF. A ROCK PIT IS POSSIBLE AT THE SWITCHBACK PRIOR TO THE LTF. THIS CAMP WOULD BE RELATIVELY SMALL.

VCU 292/293  
Units Accessed

Map Index

PHOTO INFO: YR 19 FLT LN STEREO PR

1/4 QUAD ID:



Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: SEE ROAD CARD 7588(U)  
ADVERSE 12-14% FOR FIRST 0.5 MILE

name: J. C. date: 2/20/91

TIMBER-LOGGING: RESOURCE CONCERNS:  
There is additional volume in this LTF-shed available for some harvest.

name: Richard R. Zabrako date: 2/27/91

FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: Some shallow water bank accumulation possible but generally a good site w/ 8/26/91

No special water quality concerns for location of LTF. (see SMP 14.4)

name: S. Paulsen date: 2/27/91

SOILS: RESOURCE CONCERNS: No soil concerns with LTF.

name: J. Huelken date: 2/26/91

WILDLIFE: RESOURCE CONCERNS: Loss of habitat to upland development, possible disturbance to eagle prey. No concentrated activity in an estuary.

name: M. Truitt date: 2/26/91

RECREATION & RESOURCE CONCERNS:  
VISUAL:

name: date:

CULTURAL: RESOURCE CONCERNS:

name: date:

Reviewed by:

title: James S. Burnard Buyanski date: 2/27/91  
Interdisciplinary Team Leader

E Log Transfer Facility

## ROAD DESIGN CARD

ROAD SEGMENT # NORTH HANUS BAY LTF

STATEMENT OF INTENT BY IDT: THIS IS AN ALTERNATIVE TO THE ORIGINAL SITE TO THE SOUTH WEST. THIS SITE WOULD REQUIRE A BUCKHEAD WITH AN A-FRAME. THE CAMP WOULD BE LOCATED NEAR THE CLASS I STRAND TO THE WEST. TWO EAGLES WOULD BE NEAR THE CLASS I PROVIDED SITE. THIS SITE IS SUBJECT TO STRONG WINDS OFF OF PINE ISLAND. LOG RAFTING WOULD BE MOST EFFECTED AND YEAR-AROUND USE IS DOUBTFUL.

VCU

296

Units Accessed

Map Index

PHOTO INFO: YR 19 FLT LN \_\_\_\_\_ STEREO PR \_\_\_\_\_

1/4 QUAD ID: \_\_\_\_\_



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM LTF

1/4 1/2 MILE  
 Map scale 1:10000

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ACCESS TO ROAD  
7700, ROAD GRADE WOULD HAVE TO BE GRADED  
14-16' TO MAKE THE APPROACH ONTO THE LTF.  
WE WOULD IN EXCHANGE BE MAKING A ROCK PIT ALONG THIS  
PROPERTY WHICH WOULD ALSO ACT AS PART OF THE SOFT SAND  
NAME: DATE: 2/23/91

## TIMBER-LOGGING RESOURCE CONCERNS:

There is additional volume available in this LTF-shed  
 for future harvest.

name: Richard R. Zuberdate: 2/27/91

## FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY: Class I stream just to the east of this  
site. Bank accumulation should be minimized  
(See NMFS + USFWS report 10/90. VGS 2/26/91)  
No special water quality concerns. (see 08/14/91)

name: S. Paustiandate: 2/27/91

## SOILS: RESOURCE CONCERNS: No soils concerns with LTF

name: P. Huseckerdate: 2/26/91

## WILDLIFE: RESOURCE CONCERNS: Loss of habitat to upland

developments. Close proximity to 2 eagle trees, would concentrate  
 activity away from Portage estuary.

name: M. Huseckerdate: 2/26/91

## RECREATION &amp; RESOURCE CONCERNS:

## VISUAL:

name: \_\_\_\_\_

date: \_\_\_\_\_

## CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

title: Ann S. Burns Bugarski  
 Interdisciplinary Team Leader

date: 2/27/91

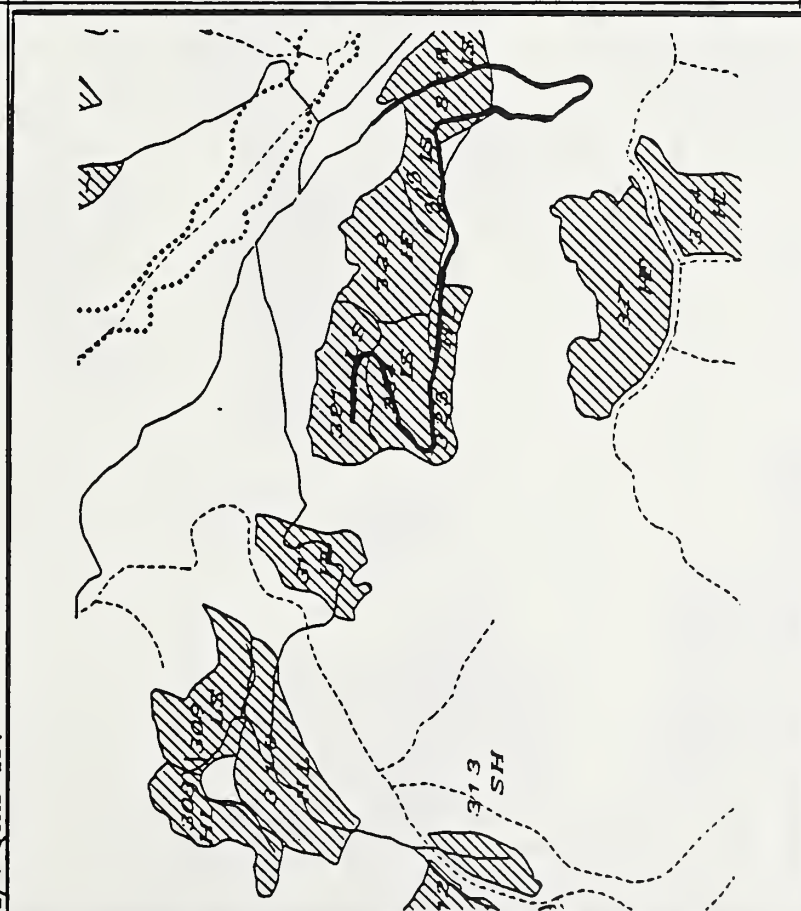
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STATEMENT OF INTENT BY IDT: USE INTERNAL AID FORMS TO REVIEW CUT SLOPES FROM VIETNAM IN PERCUSSION AND MINES. USE FULL BENCH AND END WALL CONSTRUCTION IN UNITS 324 AND 327.

VCU	<u>296</u>	324,325,328
Units Accessed		<u>321,322,323</u>

PHOTO INFO: YR 19 84 FLT LN 45 STEREO PR 284-108/109  
1/4 QUAD ID:



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS  
☒ ROAD NUM \_\_\_\_\_

## ROAD MGT OBJ. . SYNOPSIS

Road Management Objectives are on file in Chatham SO.	
ROADS:	RESOURCE CONCERNS: PORTION OF ROAD IN LOT 327 HAS APPROXIMATELY 14-16% GRAPE. ROAD GRAPE TO DISAPPEAR. WATER AND BRACKISH LOT 32A ARE CONTAMINATED, USED FULL. BOAT REGISTRATION THROUGH HERE. ARRESTS SWITZBACK IN TO HERE. BOAT NAME: <i>11</i> date: <i>2/11/68</i>

IMBER-LOGGING RESOURCE CONCERNS: Units 323 and 325 may need to be accessed in 20-25 years for precommercial thinning.

name: Richard R Zolinger  
date: 2/12/91

FISHERIES & HYDROLOGY: RESOURCE CONCERNS: *No fish concerns* 28 10/11/90  
UPPER HALF OF DITCH TO EXTENT OF 100 YARDS (WEST APPROX.) WITH MODERATE SEDIMENT. DITCHY FURNISH TO THE ESTUARY. DO 1/4/94

name:
date:

**SOILS:** ☐ **RESOURCE CONCERNS:** Less than 1/3 of road crosses high  
ground soils. Some fill bench and erod have construction would  
damage soils concerns

name: W. H. Hatcher date: 7/22/21

WILDLIFE: could consider  
RESOURCE CONCERNS: Loss of wildlife habitat w/in

name: M.J. Weber  
date: 2/6/91

RECREATION & VISUAL:	RESOURCE CONCERNS:
-------------------------	--------------------

name: \_\_\_\_\_  
date: \_\_\_\_\_

**CULTURAL:** \_\_\_\_\_ **RESOURCE CONCERNS:** \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed by:

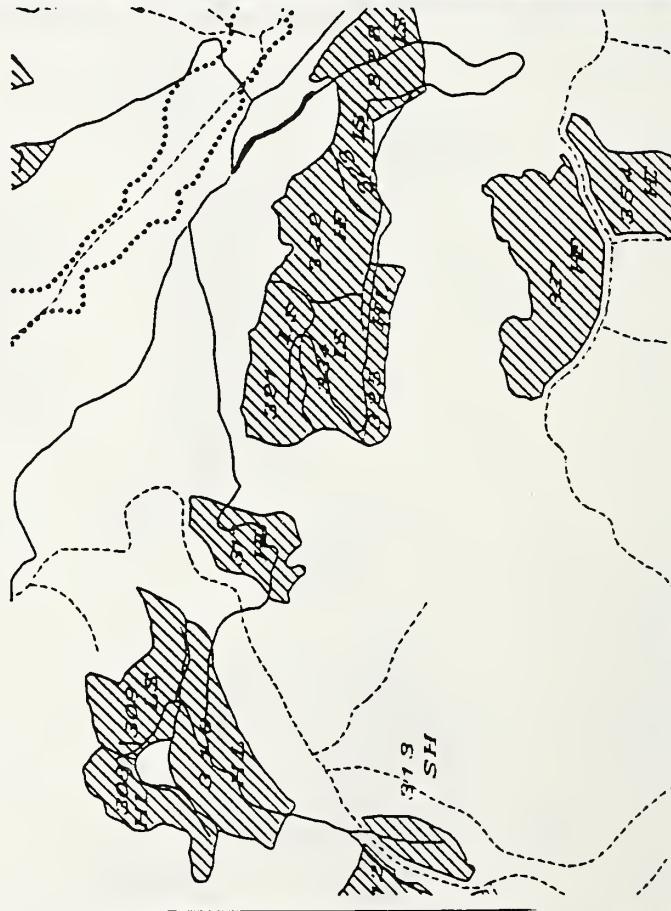
title: Interdisciplinary Team leader date: 12/3/13

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 7737 (R) MILESSTATEMENT OF INTENT BY IDT: NO CONCERNS.ROAD MGT OBJ.  
SYNOPSISVCU 296 321, 322, 323,  
Units Accessed 324, 325, 328

Map Index \_\_\_\_\_

PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-108/109  
1/4 QUAD ID: \_\_\_\_\_

- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM \_\_\_\_\_

1/4 1/2 Miles  
 Map scale 1:29474

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: no concerns

name: \_\_\_\_\_

TIMBER-LOGGING RESOURCE CONCERNS: Units 323 and 328 may need to be accessed in 20-25 years for precommercial thinning.date: 2/14/91name: Richard R. Zolner

FISHERIES &amp; HYDROLOGY: \_\_\_\_\_

RESOURCE CONCERNS: no fish concernsdate: 10/11/90date: 1/4/91

name: \_\_\_\_\_

SOILS: RESOURCE CONCERNS: No concerns

date: \_\_\_\_\_

name: R. H. H. H.

WILDLIFE: \_\_\_\_\_

date: 2/13/91RESOURCE CONCERNS: No additional habitat loss.date: 2/6/91name: M. J. Weber

RECREATION &amp; VISUAL: \_\_\_\_\_

RESOURCE CONCERNS: \_\_\_\_\_

date: 2/6/91

name: \_\_\_\_\_

CULTURAL: RESOURCE CONCERNS: \_\_\_\_\_

date: \_\_\_\_\_

name: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

date: \_\_\_\_\_

title: \_\_\_\_\_

James S. Benda-Beyarski  
 Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06



STATEMENT OF INTENT BY IDT: HYDROLOGY WILL PROVIDE INPUT FOR LOCATION AND DESIGN. LONG TERM BRIDGE NEEDED FOR FUTURE HARVEST ACTIVITIES. LOSS OF DEER WINTER PANES. USE NATURAL LANDFARMS TO SCREEN ROAD CUTS FROM VIEWS IN PERK STRAIT ALONG RIDGE TOP.

Future access needed for planting, PC turning and Timber harvest.

VCU **297** **409 401, 315, 316**

Units Accessed **317, 319, 320, 329** Map Index

PHOTO INFO: YR **1984** FLT LN **45** STEREO PR**284-110/109**  
1/4 QUAD ID:



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM **7720 N**

1/4 1/2 Miles  
Map scale 1:10438

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: Will need bridges on canal stream crossing between units 4009 401. Bridge to be long term facility.

name:

date: **2/11/91**

TIMBER-LOGGING RESOURCE CONCERNS: Unit 420 may need to be accessed in 3-5 years for planting. Units 316, 317, 319 may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest.

date: **2/13/91**

FISHERIES & RESOURCE CONCERNS:

**no fish concerns V88 10/11/90**

HYDROLOGY: 1 critical stream channel. Most of road to a adjacent state owned unit. Low concern of sediment delivery due 1/14/91

name:

date:

SOILS: RESOURCE CONCERNS:

name:

date:

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Vehicle access after the timber sale is undesirable.

name: **M. J. Weber**

date: **2/6/91**

RECREATION & RESOURCE CONCERNS:

VISUAL:

Possible visual concerns w/ this road. Changes to RDS or RDS to be made.

name:

date: **2/22/91**

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

**Interdisciplinary Team Leader**

date: **2/22/91**

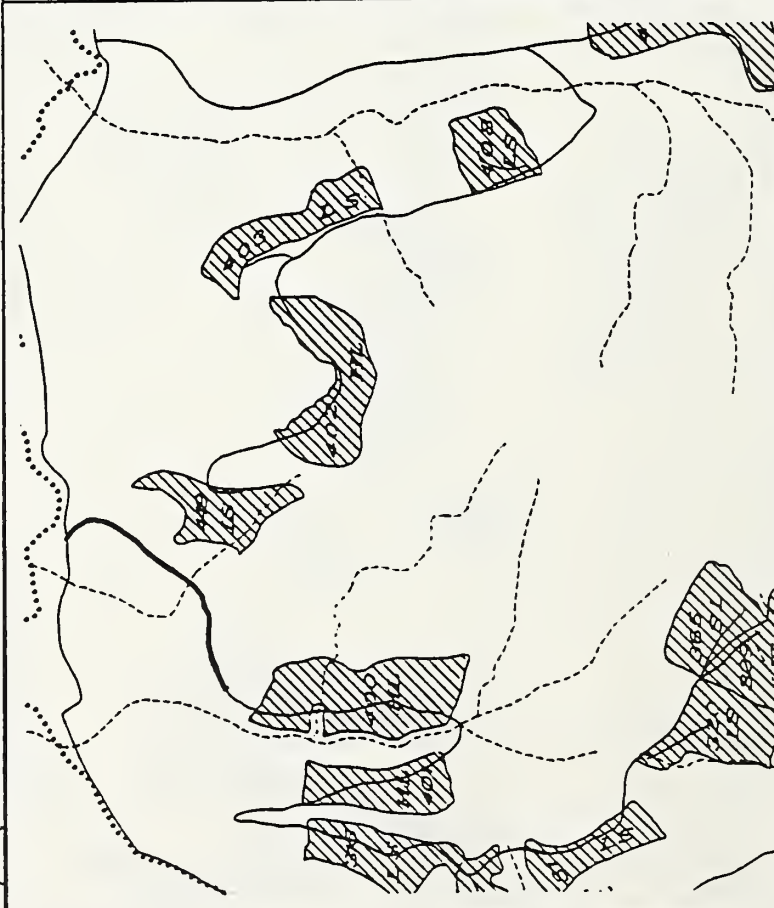
CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 7720 (R) MILES

STATEMENT OF INTENT BY IDT: HYDROLOGY TO PROVIDE INPUT ON CLASS II STREAM CROSSING. NO OTHER CONCERNS.

Future access needs include: land clearing, precommercial thinning and future commercial timber harvest.

VCU 297 317, 319, 320, 329  
Units Accessed 400, 401, 315, 316 Map Index \_\_\_\_\_PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-110/111  
1/4 QUAD ID: \_\_\_\_\_

- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7720 R

1/4 1/2 Miles  
 Map scale 1:10000

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: \_\_\_\_\_ RESOURCE CONCERNS: NO CONCERNS

name: \_\_\_\_\_

date: 2/12/91TIMBER-LOGGING RESOURCE CONCERNS: Unit 420 may need to be accessed in 3-5 years for planning. Units 316, 317, 319 may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for type harvest.  
name: Richard R. Johnson date: 3/13/91

FISHERIES &amp; RESOURCE CONCERNS: \_\_\_\_\_

HYDROLOGY: \_\_\_\_\_

no fish concerns 10/11/90I cannot determine possibility of a class II, directly above class I.

name: \_\_\_\_\_

date: \_\_\_\_\_

SOILS: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_

date: \_\_\_\_\_

WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: No additional loss of habitat but access for vehicles after logging undesirable.name: MT Weberdate: 2/6/91

RECREATION &amp; RESOURCE CONCERNS: \_\_\_\_\_

VISUAL: \_\_\_\_\_

Impacts: No change to Koser Road has impacts.

name: \_\_\_\_\_

date: 10/3/90

CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

title: \_\_\_\_\_

Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06



STATEMENT OF INTENT BY IDT: HYDROLOGY TO BE INCLUDED IN  
SECTION OF CURVATURE. SOIL HAS CONCERN OF POSSIBLE SEDIMENT  
DELIVERED TO CLASS II STREAM. LOSS OF ROW TO MIDDLE  
DEEP WINTER EROSION.

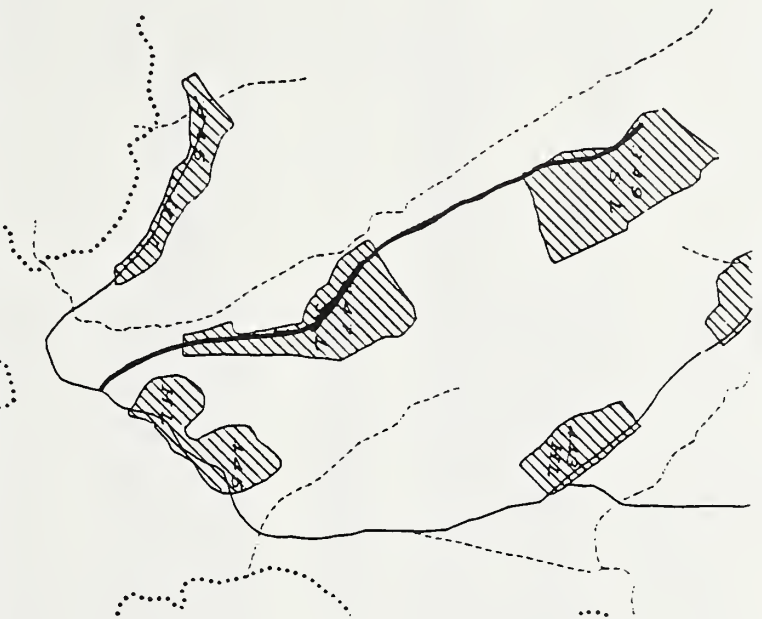
Future lowest available road unit 347. Also pre-trail road unit  
head planning.

VCU

Units Accessed 347, 348, 349

Map Index

PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 284-1516  
1/4 QUAD ID:



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

ROAD NUM 7710

1/4 1/2 Miles  
Map scale 1:1000

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS:

RESOURCE CONCERNS: GOOD PROBABILITY OF ROAD

PTS. ROAD ROW IN UNIT 347. 347 ROAD FROM VIEW  
IN CHATHAM STATE. ADDITIONAL HARVEST BECAUSE UNIT  
347 AND 348 WILL NEED ROAD ROW. ROAD ROW CONCERNS  
TO REDUCE SOIL CONCERNS.

name:

date: 2/12/91

TIMBER-LOGGING RESOURCE CONCERNS: Unit 347 may need to be

accessed in 3-5 years for road planning. There is additional  
volume available for future timber harvest.

name: Richard R. Zuber  
date: 2/12/91

FISHERIES &amp; RESOURCE CONCERNS: date: 2/12/91

HYDROLOGY: No fish concerns 08/10/11/90

ENVIRONMENTAL CONCERNS: ROAD ROW CONCERNS  
ROAD ROW CONCERNS: ROAD ROW CONCERNS  
ROAD ROW CONCERNS: ROAD ROW CONCERNS

name: date: 2/27/91

SOILS: RESOURCE CONCERNS: Road crosses high hazard

soils, including permanent slides and V-notches. Request field  
review during layout.

name: R. Hueschen date: 2/12/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.

name: M. J. Weber date: 2/6/91

RECREATION &amp; RESOURCE CONCERNS:

VISUAL: date: 2/6/91

Change to ROW boundary line for road.

name: date: 2/12/91

CULTURAL: RESOURCE CONCERNS:

name: date:

Reviewed by:

James S. Bivens Beardslee  
Interdisciplinary Team Leader date: 2/20/91

## ROAD SEGMENT # 7700 (N) MILES

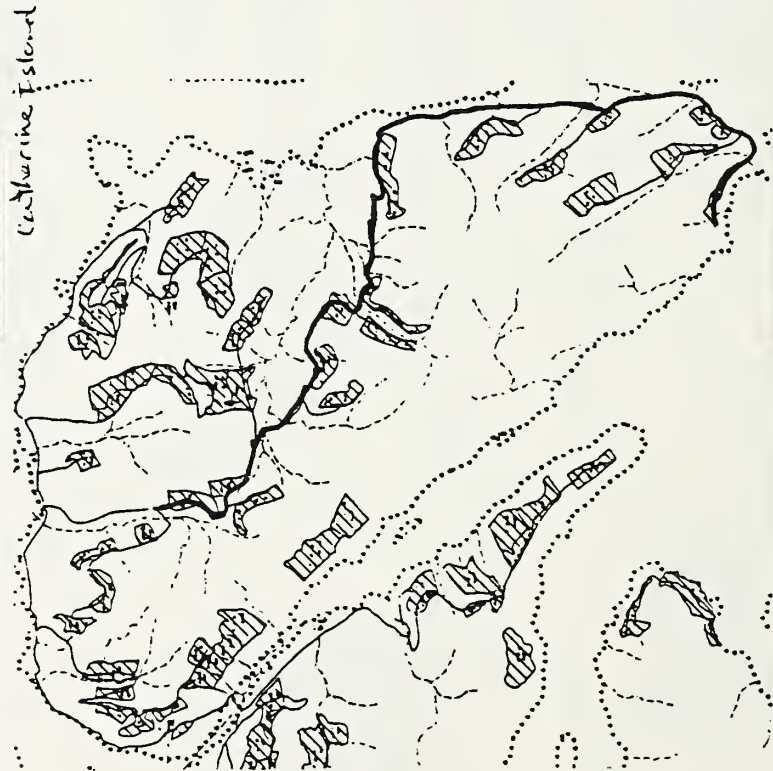
STATEMENT OF INTENT BY IDT: USE NATURAL LANDFARMS ON THE WEST SIDE OF CATHLAMET ISLAND IN MIPAGE OF ISLAND SHAWD IN CHATHAM STRAIT. BRIDGES IN MIPAGE OF ISLAND SHAWD BE RECONSTRUCT STRUCTURES. TWO EAGLE NEST TREES WILL BE REMOVED. OPPORTUNITY TO USE OVERSIZED PIPES IN FISH BREWING. STRATEGIES AT 1% GROWTH OF ACCESS TO ALLOW FOR 1954 MIPAGE. Future concern for bad plant's R. Th. + Commercial

VCU 297

Units Accessed	Map Index
<u>MAST of KCU 297</u>	

PHOTO INFO: YR 19 FLT LN STEREO PR

1/4 QUAD ID:



Catherine Island

☒ ACCESS RDS

SHORE LINES

CLASS 1 & 2 STRMS

ROAD NUM	7700 N
----------	--------

2 Miles

Road Management Objectives are on file in Chatham SO.

ROADS:	RESOURCE CONCERNS: NUMEROUS BRIDGE CLASSICAL ROAD WILL PROBABLY BE BUILT IN STAGES OVER MANY YEARS, BRIDGES OVER WATER ROUTES OF LOCAL INTEREST TO BE PRIORITY STRUCTURES FOR RE-EVALUATION.
--------	--

name: A. L. L. L. date: 2/9/91

**TIMBER-LOGGING** RESOURCE CONCERNS: 8 units along this road may need to be accessed in 3-5 years. 6 units may need to be accessed in 20-25 years for precommercial thinning. Additional volume is available for forest harvest.

name: Richard R. Zelnick date: 2/13/91

FISHERIES & RESOURCE CONCERNS:	HYDROLOGY:
At least 8 crossings of class 1 + 2 of reams. Needs field review if other than bridges are used at crossings 08 & 10/11/90	

name: BETWEEN 777 + 7709.  
date: KIRK (PERSONAL) HE SUBMITTED 684-646, 728-731, 3 COMMENTS ON THE FILE.

SOILS:	RESOURCE CONCERNS:
--------	--------------------

name: \_\_\_\_\_  
date: \_\_\_\_\_

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Suggest no access to vehicles after logging to mitigate impacts to bear and wapiti. Alters subsistence use area. Eagle trees & beach fringe impacted. name: M.J. Weber date: 2-6-91

RECREATION &	RESOURCE CONCERNS:
--------------	--------------------

**VISUAL:**

[illegible]

see in this state in conflict

1000

name: \_\_\_\_\_ date: \_\_\_\_\_

Performed by: \_\_\_\_\_

Reviewed by:

0

James S. Bennett - 11

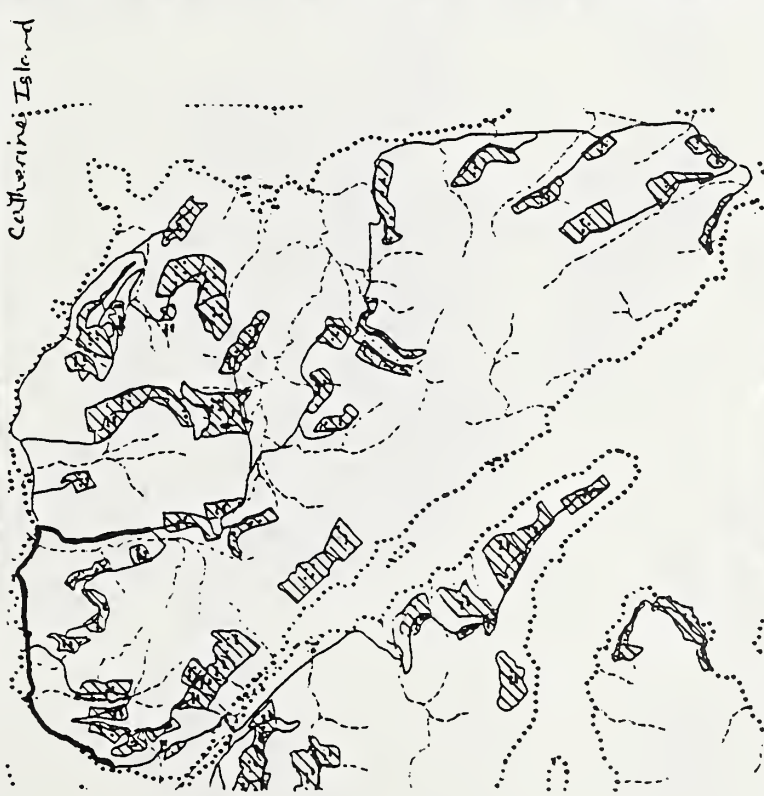
title: Interdisciplinary Team Lead date: 2/20/01

CMA-1900-06



STATEMENT OF INTENT BY IDT: DO NOT REMOVE ANYMORE  
VEGETATION THAN NEEDED FOR SAFE TRAVEL DURING  
CLEARING OPERATION. THROAT MAIN SITEGRAPHS CROSSINGS  
WILL NEED LONG TERM BRIDGES. OVERSIZE CUTTERS  
TO MITIGATE SOILS AND HYDROLOGIC CONCERNS. Future areas  
include planting precommercial thinning and commercial harvest.

VCU 297 Units Accessed ALL 297 VCU Map Index  
PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-72/21  
1/4 QUAD ID: 47D



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7700 R

Map scale: 1 inch = 2 miles  
Map scale: 1 inch = 120915 feet

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: WILL USED THREE (3) BRIDGES  
OVER CLASS 1 STREAMS. THIS ROAD WILL BE USED  
INTERMITTENTLY FOR THE NEXT 21 YEARS SO OVERSIZING  
THE CUTTERS WOULD REDUCE CONFLICTS WITH SOILS. FOUR FILL  
NEED THREE'S ALONG ROAD WILL NEED VARIANCES.  
name: John S. Bernard date: 2/4/91

TIMBER-LOGGING RESOURCE CONCERNS: There are many units  
serviced by this road that will need to be accessed in 3-5  
years for planting and/or in 20-25 years for precommercial  
thinning. There is considerable volume available for future harvest.  
name: Richard R. Zaborne date: 2/13/91

FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: Various crossings for class 1 streams. Bridge  
needed on Class 1 crossing (3). On the ground review  
needed. UGS 10/11/90

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
WILDLIFE: RESOURCE CONCERNS: No additional loss of habitat  
but 4 egle trees w/in 330' Rd. in beach fringe. Deny access to vehicles  
after logging would be mitigation opportunity  
name: M. J. Weber date: 2-6-91

RECREATION & RESOURCE CONCERNS: \_\_\_\_\_  
VISUAL: \_\_\_\_\_

Ad is within a tree. Piece. 1203 v landowner in center. as well as not  
change.  
name: \_\_\_\_\_ date: 10/11/90

CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_  
name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed by: \_\_\_\_\_

title: John S. Bernard Supervisor date: 2/4/91  
Interdisciplinary Team Leader  
CMA-1900-06

ROAD SEGMENT # 7700 (R) MILES

## ROAD DESIGN CARD

ROAD SEGMENT # 75331 MILES

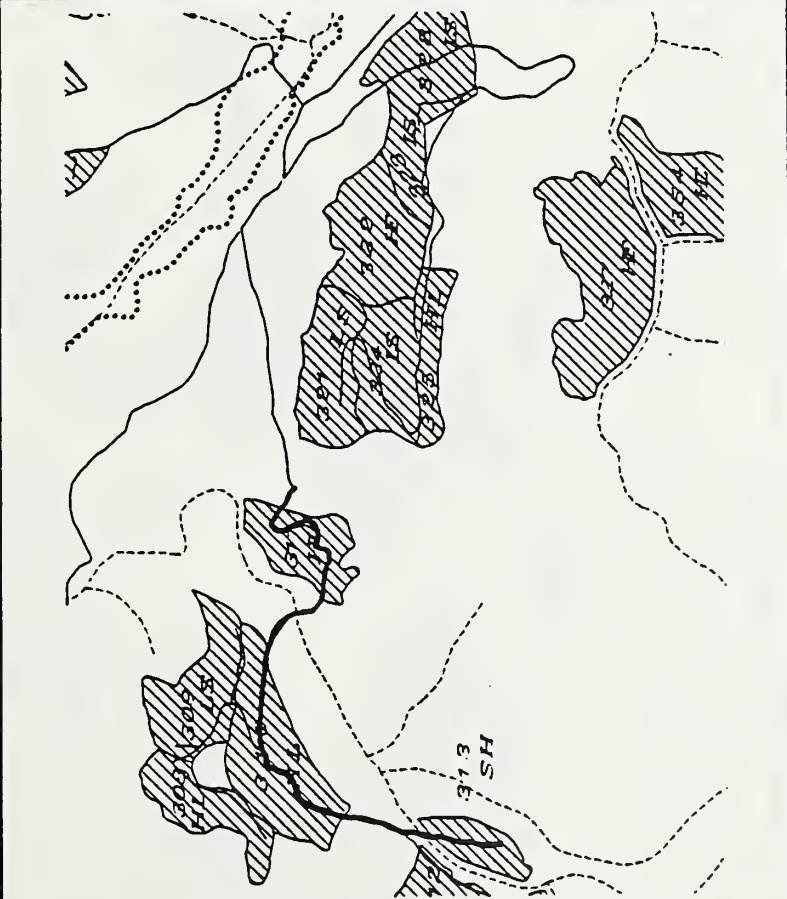
STATEMENT OF INTENT BY IDT: "V" NOTCH AT END OF ROAD NEEDS HYDROLOGY INPUT FOR LOCATION AND DESIGN. BECAUSE OF RIDGE TOP USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN HANUS BAY AND PEARL STRAIT AND FISH CONCERNS. Future access needs may include hand planting and timber harvest.		ROAD MGT OBJ. SYNOPSIS	
VCU <u>296</u> Map Index _____		Road Management Objectives are on file in Chatham SO.	
Units Accessed <u>308, 309</u>		ROADS: RESOURCE CONCERNS: <u>THOSE ARE AVAILABLE GRAPES EXCEEDING 15% ON PORTIONS OF THIS ROAD. USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN HANUS BAY.</u>	
PHOTO INFO: YR <u>1988</u> FLT LN <u>44</u> STEREO PR <u>1884-1811</u>		name: <u>A. Long</u> date: <u>2/15/91</u>	
1/4 QUAD ID: <u>180</u>		TIMBER-LOGGING RESOURCE CONCERNS: <u>Unit 308 may need to be accessed in 3-5 years for hand planting. There is additional timber volume available to the north and south of unit 308 available for future harvest.</u>	
		name: _____ date: _____	
		SOILS: _____ RESOURCE CONCERNS: <u>Some unstable soils, especially near end of road at the V notch.</u>	
		name: <u>JP Huerfano</u> date: <u>2/15/91</u>	
		WILDLIFE: _____ RESOURCE CONCERNS: <u>Loss of wildlife habitat.</u>	
		name: <u>M.J. Weber</u> date: <u>2/6/91</u>	
RECREATION & VISUAL: _____ RESOURCE CONCERNS: _____		name: _____ date: _____	
CULTURAL: _____ RESOURCE CONCERNS: _____		name: _____ date: _____	
name: _____		Reviewed by: _____	
title: <u>Interdisciplinary Team Leader</u>		date: <u>2/26/91</u>	

CMA-1900-06



STATEMENT OF INTENT BY IDT: HYDROLOGY AND FISHERIES TO BE INVOLVED IN LAYOUT AND DESIGN. USE BRIDGE AT CLASS I STREAM CROSSING AT LAKE OUTLET. DO NOT ENCROACH ON STREAM CHANNEL. IF CULTURALS ARE USED IN UNIT 313, USE GRADIENTS OF 1% OR LESS. RECREATION WOULD LIKE BRIDGE AND ROAD AT LEAST 500 FEET FROM LAKE OUTLET. Future access for land planting & timber harvest.

VCU 296  
Units Accessed 308-313 Map Index  
PHOTO INFO: YR 1988 FLT LN 44 STEREO PR 884-181/182  
1/4 QUAD ID:



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS  
☒ ROAD NUM 7533 N  
Scale 1/4" = 1/2 Miles  
Map scale 1:25000

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: CONSTRUCT BRIDGE FROM CHAM 14-16.9, FAVORABLE GRAD. ROAD THROUGH UNIT 313 HAS MINOR STREAM CROSSINGS. ROAD IN UNIT 310 HAS GOOD PROBABLY FOR LOGIC CUTS. SCREEN ROCK PITS FROM VIEW name: of lake. date: 2/18/91

TIMBER-LOGGING RESOURCE CONCERNS: Units 308 and 313 may need to be accessed in 3-5 years for land planning. There is additional volume available for future timber harvest.

name: Richard R. Zaborie date: 2/12/91

FISHERIES & RESOURCE CONCERNS:

HYDROLOGY: Bridge on outlet stream crossing (Class I) Do not encroach on stream channel with fill. numerous Class I channels crossing unit 313. Field review request ed. UGA 10/11/90  
EMPHASIZE ROAD CROSSING CONTROL PREVENTS D.K. (COMMUNITY) FIELD REVIEW TO DEVELOP SIMILAR CROSSING. date: 1/19/91

SOILS: RESOURCE CONCERNS: Moderate mass movement hazard but road appears to be in best location.

name: R. Huecher date: 2/13/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat

name: M.J. Weber date: 2/6/91

RECREATION & RESOURCE CONCERNS:

VISUAL:

name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed by: Note request for field participation by fisheries during location of crossings hydrology

title: James S. Band Bengadi date: 2/20/91  
Interdisciplinary Team Leader

## ROAD DESIGN CARD

ROAD SEGMENT # 7533 (R) MILES

STATEMENT OF INTENT BY IDT: <u>IT IS OK TO USE CULTIVARS AT stream crossings. NO WILDLIFE CONCERNS. Future access needs may include land planting and Commercial Timber harvest.</u>		ROAD MGT OBJ. SYNOPSIS	
VCU <u>296</u>		Road Management Objectives are on file in Chatham SO.	
Units Accessed <u>308-313</u>		ROADS: <u>NO CONCERNS. LONG TERM ROAD FOR FUTURE HARVEST.</u>	
PHOTO INFO: YR <u>1988</u> FLT LN <u>44</u> STEREO PR <u>180</u>		name: <u>[Signature]</u> date: <u>2/14/91</u>	
1/4 QUAD ID: <u>373 SH</u>		TIMBER-LOGGING RESOURCE CONCERNS: <u>Units 308 and 313 may need to be accessed in 3-5 years for hand planning. There is additional volume available for future timber harvest.</u>	
		name: <u>[Signature]</u> date: <u>2/11/90</u>	
		FISHERIES & HYDROLOGY: <u>NO FISH CONCERNS. DIS 1/2/91</u>	
		SOILS: <u>NO SOILS CONCERNS</u>	
		name: <u>R. H. Hatcher</u> date: <u>2/15/91</u>	
		WILDLIFE: <u>NO additional loss of habitat.</u>	
		name: <u>M. J. Weber</u> date: <u>2/6/91</u>	
		RECREATION & VISUAL: <u>NO additional loss of habitat.</u>	
		name: <u>[Signature]</u> date: <u>2/6/91</u>	
		name: <u>[Signature]</u> date: <u>2/6/91</u>	
		CULTURAL: <u>NO additional loss of habitat.</u>	
		name: <u>[Signature]</u> date: <u>2/6/91</u>	
		Reviewed by: <u>[Signature]</u> date: <u>2/20/91</u>	
title: <u>James S. Beard Burnett</u>		Interdisciplinary Team Leader	

CMA-1900-06



STATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS TO  
 SETBACK ROAD CUTS ON RIGGERS FROM VIBRIS IN  
 KUPBAR AND PUTRE AREA. NO SIDOCAT IN MCH  
 HAZARD SAYS AREA. Future access needs may include  
 precommercial thinning and commercial Timber Harvest.

VCU 286 332

Units Accessed 331, 333, 340, 341 Map Index

PHOTO INFO: YR 19 84 FLT LN 47D STEREO PR 184-30/32  
 1/4 QUAD ID:



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM

1/4 1/2 3/4 1/4  
 Map scale 1:62500

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ROAD HAS PORTIONS OF  
 14-16% FAVORABLE GROUND. IF ROCK PITS ARE LOCATED  
 ABOVE ROAD, SCREEN FROM VIEWS IN SCIENCE AREA  
 AND ROAD SIDE.

name:

date: 2/14/91

TIMBER-LOGGING RESOURCE CONCERNS: PITS 331, 332 and 341 may  
 need to be accessed in 20-25 years for precommercial thinning.  
 There is additional volume available along and beyond this road  
 for future harvest. R. Zolner

date: 2/12/91

FISHERIES & RESOURCE CONCERNS:  
 HYDROLOGY: No fish concerns 08/10/90  
 No concerns DK 1/10/91

name:

date:

SOILS: RESOURCE CONCERNS: Road crosses area of  
 high mass movement hazard in unit 333, and may require full  
 bench and end haul at that location.

name: R. H. Hatcher

date: 2/13/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat and  
 impacts w/ travel corridor down ridge. Deny access to vehicles would  
 be mitigation measure for wildlife.

name: M. J. Weber

date: 2/6/91

RECREATION & RESOURCE CONCERNS:  
 VISUAL:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 75321 (N) MILES

STATEMENT OF INTENT BY IDT: PART OF ROAD IN BEACH  
FRINGE. KEEP CLEARING WIDTHS TO A MINIMUM TO  
REDUCE VISUAL CONCERNS. USE CULVERTS FOR  
CLASS II & III CROSSINGS. Future access needs may  
include precommercial thinning and commercial timber  
harvest.

VCU

296

Units Accessed

331,332,357

Map Index

PHOTO INFO:

YR 19 84 FLT LN 46STEREO PR 284-70/72

1/4 QUAD ID:

☒ ACCESS RDS☒ SHORE LINES☒ CLASS I & 2 STRMS☒ ROAD NUM 75321

Scale 1" = 1/4" 1/2" = 1/2" = 1/2"

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS:

RESOURCE CONCERNS: IF FOUR PITS ARE LOCATED ALONG ROAD, SUGGEST FARM VIEWS IN PORTAGE-ARMED. CULVERTS ARE RECOMMENDED FOR CLASS II &amp; III CROSSINGS.

name:

date: 2/14/91

TIMBER-LOGGING RESOURCE CONCERNS: Units 331, 334 and 357 may need to be accessed in 20-25 years for precommercial thinning.

There is additional volume available for future harvest.

name:

date: 2/12/91

FISHERIES &amp; HYDROLOGY:

RESOURCE CONCERNS:

No fish concerns 10/11/90 JGS

name:

date:

SOILS:

RESOURCE CONCERNS: No soils concerns.

name: R. H. Atackerdate: 2/13/91

WILDLIFE:

RESOURCE CONCERNS: Loss of wildlife habitat and road partially in beach fringe.

name: M. J. Weberdate: 2/6/91

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

James S. Bensusan Bengtson  
Interdisciplinary Team Leaderdate: 2/20/91

CMA-1900-06



STATEMENT OF INTENT BY IDT: KEEP ROAD LOCATION BUCK FROM "V" NOTCH HEADWALLS. USE NATURAL LANDFORMS TO SCREEN ROAD OUT ON RIDGETOP FROM VIEWS IN PEOPLE STREET. Access desired for planting and future thinning, but may not need vehicle access.

VCU 297

Units Accessed 417, 418, 420 Map Index

PHOTO INFO: YR 1984 FLT LN 483 STEREO PR 184-67/68  
1/4 QUAD ID:

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 77301

1/4 1/2 Miles  
1/4 1/2 Miles

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: BECAUSE OF RESOURCE AND VISUAL CONCERNS, A SHORT TERM SPECIFICED ROAD IS RECOMMENDED.

name:

date: 2/14/91

TIMBER-LOGGING RESOURCE CONCERNS: Unit 420 may need to be accessed in 3-5 years for hard planting. Units 417 and 418 may need to be accessed in 20-25 years for precommercial thinning.

name: Richard R. Ziegler

date: 2/13/90

FISHERIES &amp; HYDROLOGY:

RESOURCE CONCERNS:

with concerns 10/11/90

Low concern only short term concerns: bottomland area through here.

name:

date:

SOILS:

RESOURCE CONCERNS:

name:

date:

WILDLIFE:

RESOURCE CONCERNS: Loss of wildlife habitat

name: M. T. Weber

date: 2/6/91

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

James S. Burns' Designation  
Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06

STATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS TO  
 SEVERE ROAD CUTS ON RIDGES FROM VIEWS IN  
 KUROBAY AND PORTAGE AREA. NO SIDECAST IN HIGH  
 HAZARD SOILS AREA. Future concrete needs may include  
 precommercial thinning and commercial thinning.

VCU 296 332

Units Accessed 331, 333, 340, 341 Map Index

PHOTO INFO: YR 19 84 FLT LN 47D STEREO PR 184-38/39  
 1/4 QUAD ID:

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM

1/4 1/2 mile  
 Map scale 1:61293

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ROAD HAS PORTIONS OF  
 14-16% FAVORABLE GRADE. IF MUSIC PITS ARE LOCATED  
 ALONG ROAD, SUGGEST FROM VIEWS IN PORTAGE AREA  
 AND KEEP BAY.

name:

date: 2/14/91

TIMBER-LOGGING RESOURCE CONCERNS: Road crosses area of  
 need to be accessed in 20-25 years for precommercial thinning.  
 There is additional volume available along and beyond this road  
 for future harvest.  
 name: R. Zuberick date: 2/12/91

FISHERIES &  
HYDROLOGY:

RESOURCE CONCERNS:

No fish concerns 088 10/10/90  
 No concerns Dik 1/10/91

name:

date:

SOILS: RESOURCE CONCERNS: Road crosses area of  
 high mass movement hazard in unit 333, and may require fill  
 bench and eye haul at that location.

name: R. Zuberick

date: 2/13/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat and  
 impacts on travel corridor down ridge. Deny access to vehicles would  
 be mitigation measure for wildlife.

name: N. J. Weber

date: 2/6/91

RECREATION &  
VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader


date: 2/20/91

CNA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 7532 (R) MILES

STATEMENT OF INTENT BY IDT: <u>INSTALL BRIDGES TO ALLOW FOR FISH PASSAGE ON CLASS I STREAM, ONLY DO CLEARING AS NECESSARY TO REDUCE VISUAL IMPACTS. Future access needs for pre-commercial thinning and commercial timber harvest.</u>	ROAD MGT OBJ. SYNOPSIS
VCU <u>296</u> <u>504 332 359 351</u> Units Accessed <u>331 333 340 341</u> Map Index _____ PHOTO INFO: YR <u>1984</u> FLT LN <u>46</u> STEREO PR <u>284-7778</u> 1/4 QUAD ID: <u>47D</u> <u>184-3039</u>	Road Management Objectives are on file in Chatham SO. ROADS: RESOURCE CONCERNS: <u>ROAD HAS LONG TERM NEEDS BECAUSE OF FUTURE THINNING. WILL NEED BRIDGES ON CLASS I STREAM CROSSING. USE OVERSIC CULVERT ON CLASS II STREAM CROSSING.</u> name: <u>P. Carter</u> date: <u>2/18/91</u>
	TIMBER-LOGGING RESOURCE CONCERNS: <u>Units 331 332 and 341 may need to be accessed in 20-25 years for pre-commercial thinning. There is additional volume available along and beyond this road for future harvest.</u> name: <u>Richard R. Zabriskie</u> date: <u>2/12/91</u> FISHERIES & RESOURCE CONCERNS: HYDROLOGY: <u>Bridge crossing on class I stream VGS 196990</u> <u>CRITICAL Stream crossing. North of Sec. 767, 320-4000 with then sediment delivery problem. Most of road presents no concerns. DA 10/8/91</u>
name: <u>P. Huerfano</u> date: <u>2/13/91</u> WILDLIFE: RESOURCE CONCERNS: <u>No additional loss of habitat. Deny access to vehicles after logging to mitigate impacts to bear and moose. is suggested mitigation.</u> name: <u>M. J. Weber</u> date: <u>2/16/91</u> RECREATION & RESOURCE CONCERNS: VISUAL:	name: _____ date: _____ SOILS: RESOURCE CONCERNS: <u>No soils concerns</u>
name: _____ date: _____ CULTURAL: RESOURCE CONCERNS:	name: _____ date: _____ CULTURAL: RESOURCE CONCERNS:
name: _____ date: _____ Reviewed by:	name: _____ date: _____ Reviewed by:
title: <u>James S. Beard Beepoke</u> date: <u>2/20/91</u> <u>Interdisciplinary Team Leader</u>	title: _____ date: _____ CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 7530 (MILES)

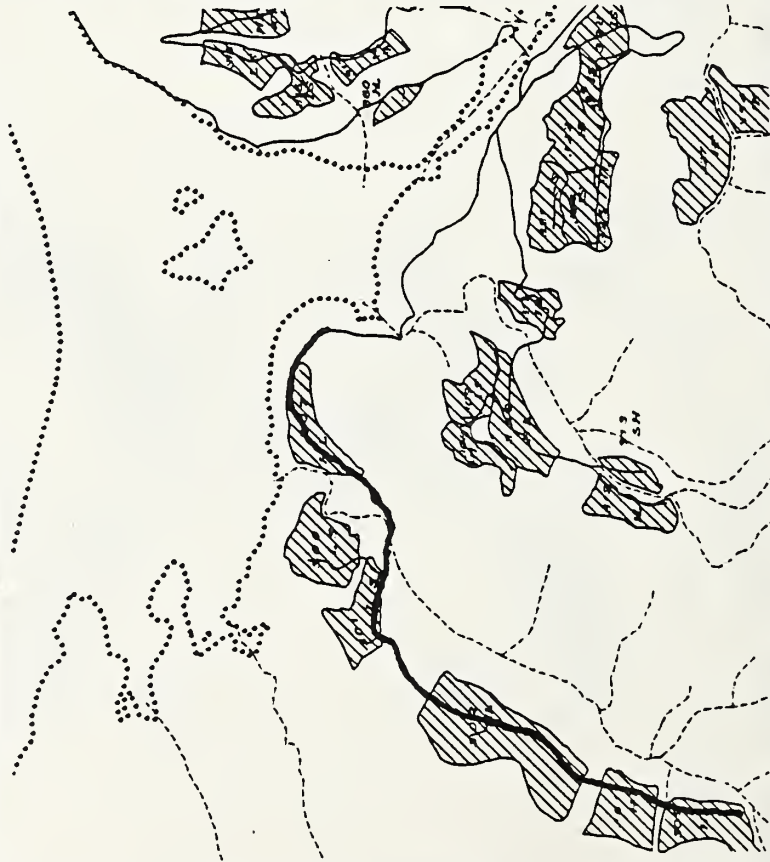
STATEMENT OF INTENT BY IDT: SOILS AND HYDROLOGY TO BE INVOLVED WITH LAYOUT AND DESIGN. USE BRIDGES TO CROSS CLASS I STREAM OUT OF LITTLE LAKE EVA. PROVIDE TRAFFIC INTO LITTLE LAKE EVA BEFORE LOGGING COMPLETED. SURVEY AND ROCK PITS OPENED.

VCU

296

Units Accessed LT. LAKE EVA UNITS Map Index

PHOTO INFO: YR 1984 FLT LN 43 STEREO PR 284-215/216  
1/4 QUAD ID: 215



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

1/4 1/2 Miles  
Map scale 1:52722

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: WILL NEED TWO BRIDGES, ONE AT LITTLE LAKE EVA OUTLET AND ONE AT THE CROSSING BETWEEN UNITS 305 AND 306. ROCK CLIFFS WILL BE ENCOUNTERED BETWEEN UNITS 301 AND 302. ROCK PITS CAN BE LOCATED IN UNIT 302 BUT SUREN FROM VIEWS ON A HILL.

name:

date: 2/14/91

TIMBER-LOGGING RESOURCE CONCERNS: Units 301 and 306 may need to be accessed in 20-25 years for precommercial thinning. There is additional timber available for future harvest.

name:

date: 3/16/91

FISHERIES & RESOURCE CONCERNS: Use bridge at crossing of Little Lake  
HYDROLOGY: Two. One logging bridge at upper end of lake and remove water wheel logging completed 8/2/90  
EMPHASIZE ROAD EXISTENCE PREVIOUS D.C.  
AND MASS WATERSHED PREVENTION BRIDGES. 2/27/91

SOILS:

RESOURCE CONCERNS: Road crosses hazardous soils just beyond the setback at the northwest end of Little Lake Eva.

name:

date: 2/13/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Deny vehicle access after sale to mitigate impacts to bear and wolverine. Could multiple management buffer preserve

name:

date: 2-6-91

RECREATION & RESOURCE CONCERNS:  
VISUAL:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

date: 2/20/91

CMA-1900-06

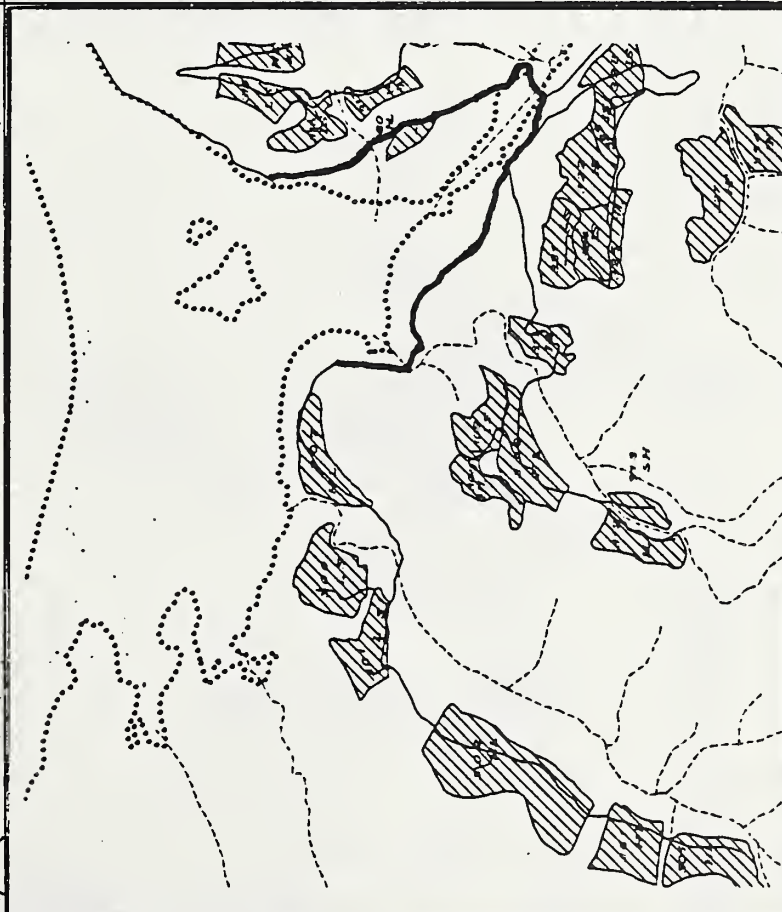
James S. Bernard, Benjamin  
Interdisciplinary Team Leader



## ROAD DESIGN CARD

ROAD SEGMENT # 7530 (R) MILESROAD MGT OBJ.  
SYNOPSIS

STATEMENT OF INTENT BY IDT: WILL NOTD CHARGE FISH PASSAGE IN PORTAGE AREA CROSSING AREA. PROVIDE FOR FISH PASSAGE BY USING A BRIDGE OVER CLASS I STREAM COMING OUT OF LITTLE LITTLE LAKE EWA. IF PIPES ARE USED ON FISH BORING STREAMS, USE LOSS THAN 1% GRADIENT TO ALLOW FOR FISH PASSAGE. ONLY CLEAN THE ROADWAY AS AGREED TO REMOVE VISUAL CONCERNS. Future access needed for planting, thinning & harvest.

VCU 296Units Accessed 314318 Map Index \_\_\_\_\_
 PHOTO INFO: YR 1984 FLT LN 45 STEREO PR 284-110/111  
 1/4 QUAD ID: 109


- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7530(R)

 1 1/4 1/2 Miles  
 Map scale 1:52722

Road Management Objectives are on file in Chatham SO.

 ROADS: RESOURCE CONCERNS: INTERMITTENT LONG TERM USE OF THIS ROAD WILL REQUIRE A PERMANENT BRIDGE ACROSS PORTAGE AREA. BRIDGE ACROSS CLASS I STREAM TO BE PERMANENT. FUTURE HARVEST ACTIVITIES ANTICIPATED.  
 name: J. Lusk date: 2/14/91

 TIMBER-LOGGING RESOURCE CONCERNS: There are numerous units which may need to be accessed in 3-5 years for planting and in 20-25 years for precommercial thinning. There is additional volume available for future harvest.  
 name: Richard R. Zuberke date: 2/12/91

 FISHERIES & RESOURCE CONCERNS: Provide for fish passage where necessary in Class 1 & 2 stream. Provide for full encroachment in fish habitat. UFS 9/21/90  
 name: \_\_\_\_\_ date: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS: \_\_\_\_\_ RESOURCE CONCERNS: No soils concerns
 name: R. H. Hucker date: 2/13/91  
 WILDLIFE: RESOURCE CONCERNS: No additional loss of habitat but road is partially w/in estuary fringe. Access to vehicles should be denied following logging. If road crossing should preserve ecosystem.  
 name: M. J. Weber date: 2/6/91

 RECREATION & RESOURCE CONCERNS:  
 VISUAL: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

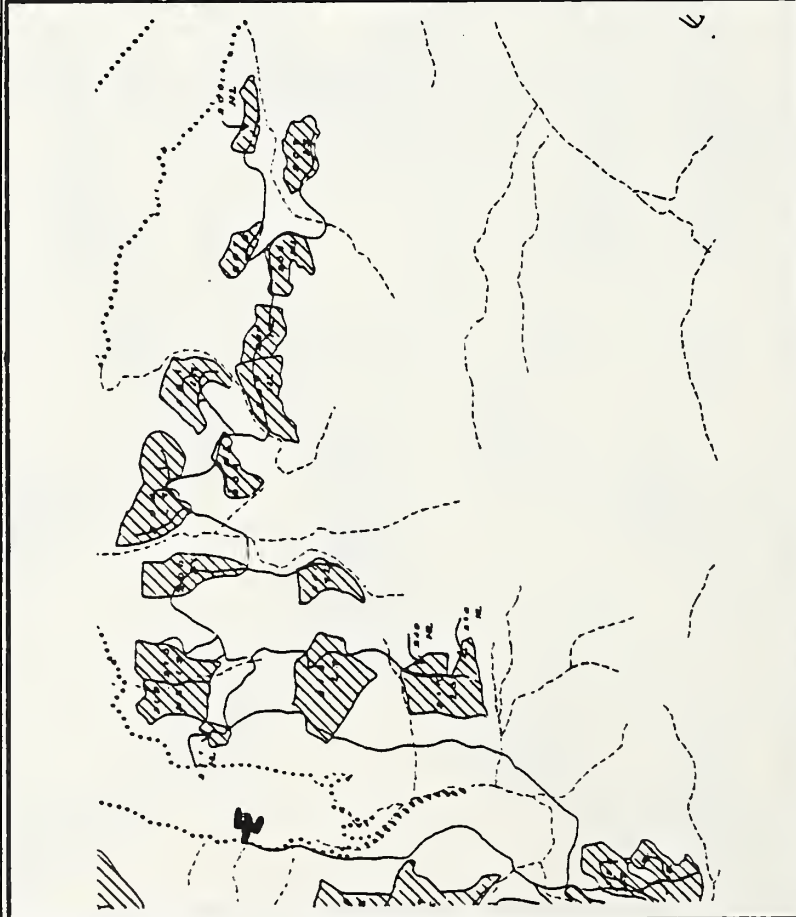
name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

 title: James S. Burns Guyardski date: 2/20/91  
Interdisciplinary Team Leader

CMA-1900-06

STATEMENT OF INTENT BY IDT: RE-BUILD BULLHEAD A-FRAME  
 TYPE LTF UTL 120 VEGETATIVE SCARPING WHOLE  
POSSIBLE LANDSCAPE ARCHITECT TO BE INVOLVED N  
AYOUT PHASE. Possible need to re-acc. LTF in  
 the future for harvests.

VCU 294Units Accessed ALLMap Index 217KA B4NWPHOTO INFO: YR 19 77 FLT LN 34 STEREO PR 1076 189/1901/4 QUAD ID: B4-NW☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM

9 1 Miles  
 Map scale 1: 27140

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: REBUILD A FRAME TYPE  
LTF.

name:

date: 2/20/91TIMBER-LOGGING RESOURCE CONCERNS: Timber is additional  
volume available in this LTF shed available for future  
harvestname: Richard R. Zuber, Jr.date: 2/19/91

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY:

No fish concerns 1/28 2/19/91

name:

date:

SOILS:

RESOURCE CONCERNS: No soils concerns.name: P. Anackerdate: 2/25/91

WILDLIFE:

RESOURCE CONCERNS: No additional loss of  
habitat but eagle treesite adjacent to LTF. Time activity  
avoid conflict.name: M. J. Weberdate: 2-6-91

RECREATION &amp;

RESOURCE CONCERNS: See mitigation measures  
replaces LA forest patches, riparian zone

VISUAL:

name: B. H. Zuberdate: 2/25/91

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

James S. Beckman, Bismarck  
Interdisciplinary Team Leaderdate: 2/26/91

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 7733(N) MILESROAD MGT OBJ.  
SYNOPSIS

STATEMENT OF INTENT BY IDT: UTILIZE OVERSIZE PILES IN CLASS II STREAM CROSSINGS, FISHERIES, SOILS, AND HYDROLOGY TO BE INVOLVED IN LOCATION AND DESIGN OF STREAM CROSSINGS ALLOW FOR FISH PASSAGE UNDER TEMPORARY BRIDGE BETWEEN UNIT 238 AND 244 IN CLASS I STREAM. Future areas nearby include planting, thinning and commercial harvest.

VCU 294  
Units Accessed ALL SOUTH Map Index SITKA 34-NW

PHOTO INFO: YR 1977 FLT LN 34 STEREO PR 1076-191/192  
1/4 QUAD ID: 34-NW



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS I & 2 STRMS

☒ ROAD NUM 7733

1/4 1/2 Miles  
Map scale 1:52509

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: ONE CLASS I STREAM CROSSING, ONE TEMPORARY BRIDGE, KEEP FILLS ACROSS CLASS II CROSSING LOW AND UTILIZE OVERSIZE PILES.

name: date:  
TIMBER-LOGGING RESOURCE CONCERNS: There are 8 units which may need to be accessed in 3-5 years for planting. There are 2 units which may need to be accessed in 20-25 years for commercial thinning. There is additional volume available for future harvest.  
name: Robert R. Johnson date: 2/15/91

FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: 2 CRUISE CLASS II RIVER CROSSINGS, REMOVAL FIELD REVIEW TO DETERMINE STREAM CROSSING EXISTENCE, BRIDGE SITE, FISH PASSAGE BARRIERS IN HABITAT, SOILS, AND WATER QUALITY. 2/27/91 DK

Two Class I stream crossings; bridges needed to provide fish passage. Field review needed 4/91.

SOILS: RESOURCE CONCERNS: Some impact on riparian soils and some hazardous soils are present in the vicinity of Unit 203. Request field review.  
name: R. Kuehner date: 2/12/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat including some riparian. Denying access to vehicles after logging would mitigate impacts to bear and marten.  
name: M. J. Weber date: 2/6/91

RECREATION & VISUAL: RESOURCE CONCERNS:

name: date:  
CULTURAL: RESOURCE CONCERNS:

name: date:

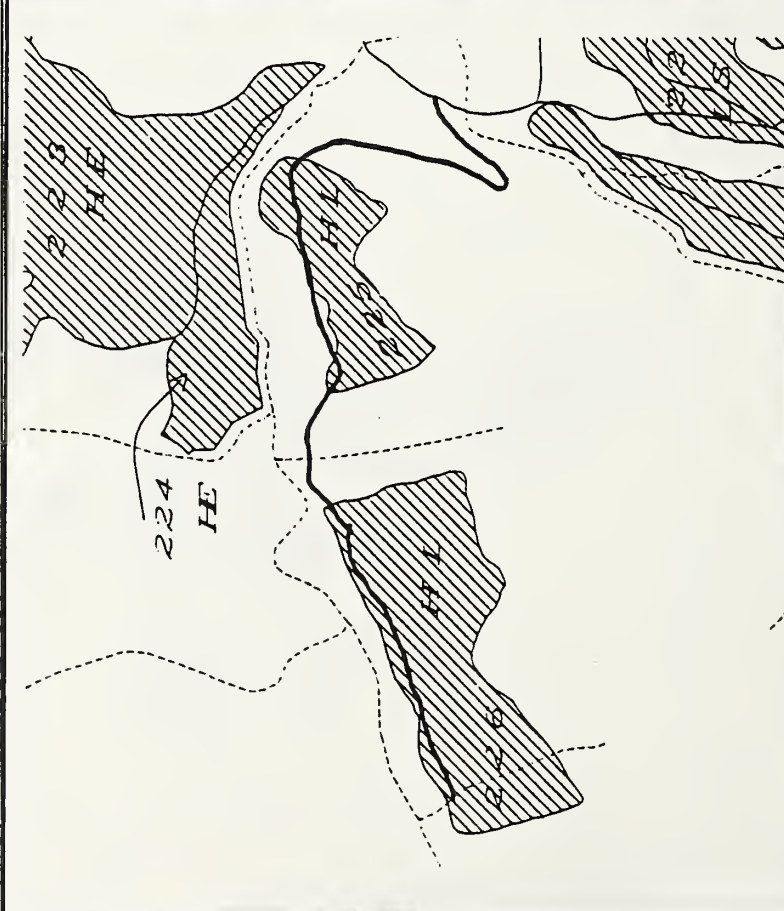
Reviewed by: R. 7/1/33 re-routed to be above riparian area. Fish and Hydro comments preclude re-routing of the road. Request field review of stream crossings.

title: James S. Brown Bayanabe  
Interdisciplinary Team Leader date: 2/18/91

CMA-1900-06

STATEMENT OF INTENT BY IDT: KEEP CUTS AND FILLS TO A MINIMUM BECAUSE OF HAZARDOUS SOILS. MAINTAIN 50' BUFFER STRIPS. NUMEROUS "V" NOTCHES WILL BE USED OVERSIZE PIPES TO REDUCE POSSIBILITY OF ACCUMULATED OUTFLOW. Future Harvest opportunity beyond Unit 226.

VCU

Units Accessed 225, 226Map Index SITKA B4 NWPHOTO INFO: YR 1977 FLT LN 34 STEREO PR 1076-190/1911/4 QUAD ID: B4 NW☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 75398

0 1/4 1/2 Miles  
Map scale 1:20467

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ROAD CROSSES TWO CLASS II STREAMS. INSTALL PERMANENT CLOSING ACROSS 1ST CLASS II STREAM. GRADE FROM UNIT 225 TO SWITCHBACK APPROACHES 18% FAVORABLE. UTILIZE OVERSIZE PIPES IN "V" NOTCH X-LINES TO REDUCE SLOTTING.

name: Robert R. Zaborie date: 2/15/91

TIMBER-LOGGING RESOURCE CONCERNS: Unit 226 may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available beyond unit 226, across the stream, for future harvest.

name: Robert R. Zaborie date: 2/15/91

FISHERIES & HYDROLOGY: RESOURCE CONCERNS: PERMANENT ROAD CROSSING, CATTLE PASTURES, 2 CATTLE CLASSED TO STREAM CROSSING, RECOMMEND FIELDS BEHIND TO DEVELOP STREAM CROSSING, CATTLE PASTURES, (10) MATURED MAPS. DK 7/15/91

name: Robert R. Zaborie date: 2/15/91

name: Robert R. Zaborie date: 2/15/91

SOILS: RESOURCE CONCERNS:

name: Robert R. Zaborie date: 2/15/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.

name: M.J. Weber date: 2/6/91

RECREATION &amp; VISUAL: RESOURCE CONCERNS:

name: M.J. Weber date: 2/6/91

CULTURAL: RESOURCE CONCERNS:

name: M.J. Weber date: 2/6/91

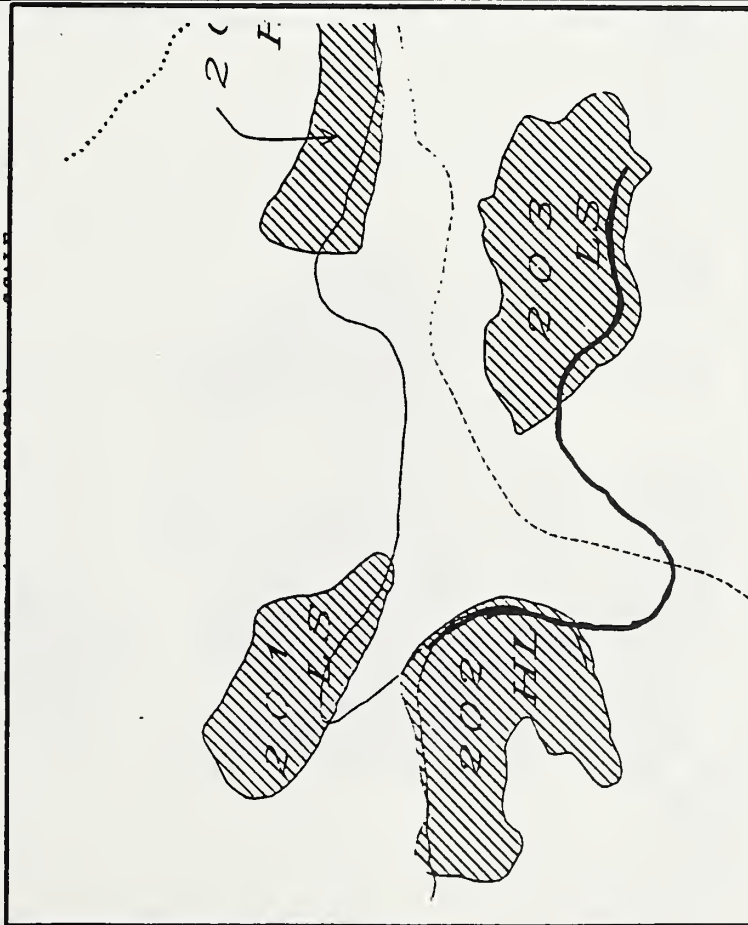
Reviewed by:

title: Interdisciplinary Team Leader date: 2/20/91

GMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 75397 MILESSTATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS TO  
SCREEN ROAD CUTS FROM VIEWS IN POUL STRAIT.VCU 294  
Units Accessed 202-203 Map Index SITKA B4 NE  
PHOTO INFO: YR 19 76 FLT LN 37 STEREO PR 276-303  
1/4 QUAD ID: B4-NE

- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 75397

1/4 1/2 Miles  
 Map scale 1:15,555

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: USE CULTIVAT TO CLASS CLASS  
 II STRIPING. NO ROCK PIT SHOULD BE LOCATED HERE BECAUSE  
 OF NEW CONSTRAINTS.

name: J. L. L. date: 2/16/91  
 TIMBER-LOGGING RESOURCE CONCERNS: There is additional volume  
 available beyond unit 203 for future harvest.

name: Richard R. Zaborie date: 2/15/91  
 FISHERIES & RESOURCE CONCERNS: CRITICAL STREAM CROSSING  
 HYDROLOGY: RECOMMEND FLOW REVIEW TO DEVELOP STREAM  
 CROSSING DESIGN CRITERIA. OK 2/27/91

Provide for fish passage on Class 2 stream UG8.

name: R. H. H. date: 2/12/91  
 SOILS: RESOURCE CONCERNS: Road crosses several small  
 Vetches and the slope gradient appears to be steep near  
 the beginning of the road.

name: R. H. H. date: 2/12/91  
 WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.

name: M. J. Weber date: 2/6/91  
 RECREATION & RESOURCE CONCERNS:  
 VISUAL:

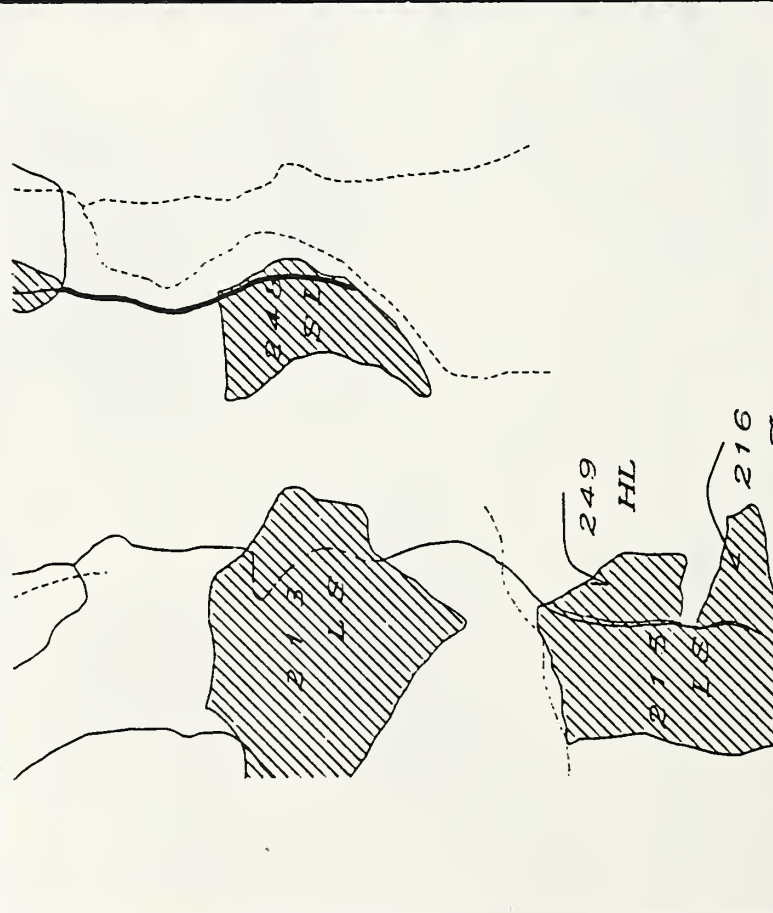
name: \_\_\_\_\_ date: \_\_\_\_\_  
 CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed by: Note request for field review  
at stream crossings during layout.

title: James S. Burns Bengtson date: 2/20/91  
Interdisciplinary Team Leader

## ROAD DESIGN CARD

ROAD SEGMENT # **75394** MILESSTATEMENT OF INTENT BY IDT: MANITOW 50' BUFFER AROUND CLASS II STREAM, LOSS OF DEER WINTER RANGE AND HABITAT HABITAT.ROAD MGT OBJ.  
SYNOPSISVCU 294  
Units Accessed 248 Map Index SITKA BY NWPHOTO INFO: YR 1977 FLT LN 36 STEREO PR/176-83/182  
1/4 QUAD ID: BY NW

- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM **75394**

1/4 1/2 Miles  
 Map scale 1:21820

Road Management Objectives are on file in Chatham SO.  
ROADS: 50' FROM CLASS II STREAM ON SOUTHEAST.  
RESOURCE CONCERNS: KEEP ROAD MINIMUM OFname: Plant date: 2/16/91  
TIMBER-LOGGING RESOURCE CONCERNS: No concerns.name: Richard R Zelenka date: 2/15/91  
FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: EMERGENCY ROAD CLOSURE CONTROL AND MAINTENANCE  
HAZ. DR 2/27/91No fish concerns. Vgs.name: SOILS: date: 2/15/91  
RESOURCE CONCERNS: Read located just below  
high hazard soils at the north end of unit 249name: R. H. Weber date: 2/12/91  
WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.name: M. J. Weber date: 2/6/91  
RECREATION & RESOURCE CONCERNS:  
VISUAL:name: CULTURAL: date: RESOURCE CONCERNS:name: Reviewed by: date: title: James S. Bernard Bengardie date: 2/20/91  
Interdisciplinary Team Leader

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 75393 MILES

STATEMENT OF INTENT BY IDT: USE NATURAL LAND FORMS TO SCULPT ROAD CUTS FROM VIEWS IN SHORE AND PEAK STAIN, LOSS OF DEER WINTER RANGE.

ROAD MGT OBJ.  
SYNOPSIS

VCU 294 Map Index SITKA B4 NW  
 Units Accessed 210  
 PHOTO INFO: YR 19 76 FLT LN 35 STEREO PR 376-291  
 1/4 QUAD ID: B4 - NW 292



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 75393

1/4

Mapscale 1:2000

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: no concerns.name: P. Lantz date: 2/16/91  
TIMBER-LOGGING RESOURCE CONCERNS: No concerns.

name: Richard R. Zelenka date: 2/15/91  
 FISHERIES & RESOURCE CONCERNS: in then are many wti.  
 HYDROLOGY: planning concerns over potential sediment delivery to a critical section of the river  
no fish concerns. 198.

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: RESOURCE CONCERNS: Read will be located near hazardous soils, but appears to be all right.

name: R. Huerfano date: 2/12/91  
 WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat.

name: M. J. Weber date: 2/6/91  
 RECREATION & RESOURCE CONCERNS:  
 VISUAL:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 Reviewed by:

title: James S. Bernard Beysenke date: 2/16/91  
Interdisciplinary Team Leader

CMA-1900-06

## ROAD MGT OBJ.

Road Management Objectives are on file in Chatham SO.	
ROADS:	RESOURCE CONCERNS: <i>KEYS AND ABOUT VILLAGES</i> <i>N UNIT 21/2 &amp; 21,5, FUTURE HARVEST ANTICIPATED ON ROAD</i>

name: 1. C. L. date: 3/16/91

IMBER-LOGGING	RESOURCE CONCERNS. Unit 213 may need to be processed in 20-25 years for precommercial thinning. There is additional volume available beyond unit 215 for future harvest.
---------------	--

name: Richard R. Ziegler  
date: 2/15/91

[illegible]

HARRIS Atty Gen. U.S.A. HARRIS could tell us "in private".  
The fish concerns V.Ds.

name: \_\_\_\_\_ date: \_\_\_\_\_

SOILS:	RESOURCE CONCERNS: Low water level
--------	------------------------------------

above V indicates between cells 213 and 215.

name: R. H. Haskins date: 2/12/91

WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: loss of wildlife habitat.

name: M. J. Weber date: 2/6/91

### RECREATION & RESOURCE CONCERNS:

1

name: \_\_\_\_\_ date: \_\_\_\_\_

CULTURAL:	RESOURCE CONCERNS:
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*[Faint, illegible handwritten text]*

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name:
date:

```

Reviewed by:

*L. v. s.*

name: S. Blue, Jr. Deputy  
title: Interdisciplinary Team Leader  
date: 2/20/91

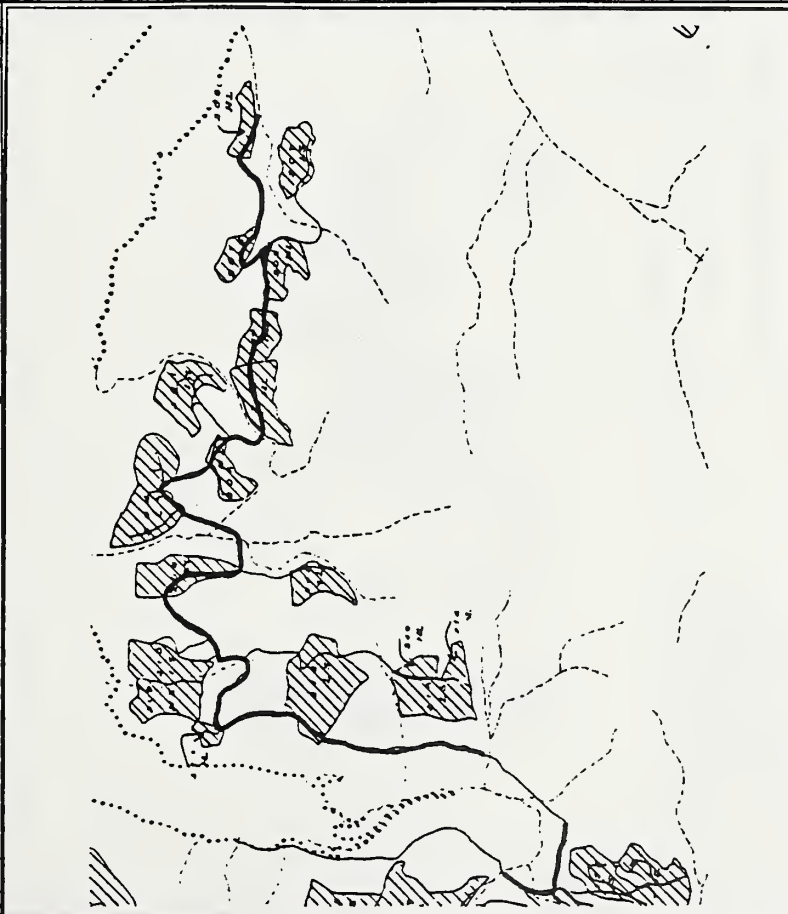
title.	interdisciplinary team leader	date.
CMA-1900-06		



## ROAD DESIGN CARD

ROAD SEGMENT # 7539(N) MILES

STATEMENT OF INTENT BY IDT: USE PIPES IN CLASS II STREAM CROSSING TO PROVIDE FOR FISH PASSAGE, SOILS AND HYDROLOGY TO BE INVOLVED IN BUILDING OUT. USE ARTIFICIAL SANDFORKS TO SCENERY RIDGE TOP ROAD FROM VIEWS IN SPOOK AND PEARL STRAIT. LOSS OF DEER WINTER RANGE AND MARTIN HABITAT. Future review needs include planning, thinning and commercial harvest.

VCU 294Units Accessed ALL EAST UNITS Map Index SITKA B4 NWPHOTO INFO: YR 1976 FLT LN 35 STEREO PR 376-2911/4 QUAD ID: B4 NW 36 1176-83☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 7539 N

0 1 2 Miles  
Map scale 1:67100

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: THINGS ARE 2 CLASS I STREAM CROSSINGS ON THIS ROAD PLUS 5 CLASS II CROSSINGS. THE CLASS I CROSSINGS ARE USED FOR WINTER RANGE AND MARTIN HABITAT.

name:

date: 2/16/91TIMBER-LOGGING RESOURCE CONCERNS: There are 3 units which may need to be accessed in 3-5 years for planting. There are 3 units which may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest.

FISHERIES &amp; HYDROLOGY:

RESOURCE CONCERNS: 4 grade stream crossings on this subunit.

Two crossings of Class 2 streams. Review for fish passage. Field review requested. VOS.

name:

date:

SOILS: RESOURCE CONCERNS: Numerous V-notch crossings and road crossings or newly crosses hazardous soils in the vicinity of Units 26 and 30. Field review requested.name: R. H. H. H.date: 2/16/91WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Denying access to vehicles after logging would mitigate impacts to bear and moose.name: M. J. Weberdate: 2/6/91

RECREATION &amp; VISUAL:

RESOURCE CONCERNS:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by: Steve Reed for fish and wildlife, participating during road location.

title:

Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 7539 (R) MILES

STATEMENT OF INTENT BY IDT: IF FISH PRESENT IN CLASS II STREAMS, ALLOW FOR FISH PASSAGE USING LARGE CONCRETE. ALSO NEEDS AN ARCHITECTURAL SURVEY, HYDROLOGY TO BE INCLUDED IN LAPOUT AND DESIGN. CLONE ONLY WHAT IS NEEDED TO REDUCE VISUALS CONCERN. Future concerns, handle include planting, thinning and commercial logging.

VCU 294Units Accessed ALLMap Index SITKA B4 NWPHOTO INFO: YR 19 77 FLT LN 34 STEREO PR 1076-1901/4 QUAD ID: B4 NW

☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7539 R

1/4 mile  
 1/2 mile  
 3/4 mile  
 1 mile

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: NO CLASS II STREAMS CROSSINGS CAN UTILIZE CONCRETE, NO CLASS II CROSSINGS ON RECONSTRUCTION PORTION. USE GRADIENTS OF 1% ON FISH PASSAGE CONCRETE

name: 1/12/91 date: 2/16/91

TIMBER-LOGGING RESOURCE CONCERNS: There are many units which may need to be accessed in 3-5 years for planting. There are also many units which may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest.  
 name: Richard R. Johnson date: 2/15/91

FISHERIES & RESOURCE CONCERNS: 4 CRITICAL STREAM ENCLOSURES HYDROLOGY: ON THIS MOUNTAIN, SEE GEO MAP.

Use bridges on crossings of class I streams.  
 Field review requested. VSS.

name: 1/12/91 date: 2/16/91

SOILS: RESOURCE CONCERNS: No soils concerns

name: R. Johnson date: 2/16/91

WILDLIFE: RESOURCE CONCERNS: No additional loss of habitat. Denying access to vehicles after logging would mitigate impacts to bears & moose.

name: M. J. Weber date: 2/6/91

RECREATION & RESOURCE CONCERNS: VISUAL:

name: 1/12/91 date: 2/16/91

CULTURAL: RESOURCE CONCERNS:

name: 1/12/91 date: 2/16/91

Reviewed by:

title: Interdisciplinary Team Leader date: 2/20/91

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 7701 MILES

STATEMENT OF INTENT BY IDT: USE NATURAL LAND FORMS BETWEEN UNITS 403 AND 404 TO SCREEN ROAD CUTS FROM VIEW IN POPEL STREAM, INSTILL A BRIDGE ON CLASS I STRAIN CROSSING.

VCU 297 405, 403  
Units Accessed 415, 408, 402

Map Index

PHOTO INFO: YR 1984 FLT LN 47D STEREO PR 184-33/34  
1/4 QUAD ID:

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 7701

1/4 1/2 miles  
Graphic 1-10438

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: HAZARDOUS SOILS FROM BEARING TO UNIT 403. WILL NEED A BRIDGE ON CLASS I STRAIN CROSSING. LONG TERM NEEDS FOR FUTURE HARVEST.

name: De la... date: 2/10/91

TIMBER-LOGGING RESOURCE CONCERNS: Units 402 and 408 may need to be accessed in 3-5 years for planning. Unit 415 may need to be accessed in 20-25 years for commercial thinning. There is additional volume available for future harvest.

name: De la... date: 2/13/91

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY: Bridge needed on Class I crossing UG8 10/10/90

CLASS I TRIB. TO THE MASS. IN SECT. 433, ON 11/1/91  
name: DE LA... date: 11/1/91

SOILS: RESOURCE CONCERNS:

name: De la... date: 2/10/91

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Some loss of riparian. Vehicle access after logging not desirable.

name: M. J. Weber date: 2/6/91

RECREATION &amp; RESOURCE CONCERNS:

VISUAL: Recreation has increased concerns riparian. Change to better land use.

name: De la... date: 11/1/91

CULTURAL: RESOURCE CONCERNS:

name: De la... date: 11/1/91

Reviewed by: Note request for Fisheries hydrology review of stream crossing

title: James S. Beard Beepack date: 2/20/91  
Interdisciplinary Team Leader

CMA-1900-06

51

STATEMENT OF INTENT BY IDT: INVOLVE HYDROLOGY IN LOCATION AND DESIGN PHASES OF THIS ROAD TO ADDRESS SOIL MOISTURE CONCERNS, USE A BRIDGE AT STREAM CROSSING, EAST OF UNIT 423.

VCU 297

Units Accessed 423 424/433 Map Index

PHOTO INFO: YR 19 84 FLT LN 488 STEREO PR 184-65/66  
1/4 QUAD ID: 184-119/120

Catherine Island.

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 7703

1/4 1/2 miles  
0 1/2 1/4 1/2 3/4 1

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: BECAUSE OF MULTIPLE CRITICAL STREAM CROSSINGS AND FUTURE MAINTENANCE, THIS WILL BE A LONG TERM SPEC. ROAD. STREAM CROSSING JUST EAST SIDE OF UNIT 423 WILL NEED A BRIDGE.

name:

date: 2/9/91

TIMBER-LOGGING RESOURCE CONCERNS: Unit 433 may need to be accessed in 3-5 years for planting. There is additional volume available for future harvest.

name: Rickard A. Zuber

date: 2/13/91

FISHERIES &  
HYDROLOGY:

RESOURCE CONCERNS:

Requires bridge at class 1 crossing 0781011/90

Unit crossing due to 4 critical roads (crossings of class 1 at 0781011/90 to the lake 1. Connectivity for stream crossings, hydrology, and soil moisture concerns. Unit crossing due to 11-81

name: Rickard A. Zuber  
RESOURCE CONCERNS: Requires bridge at class 1 crossing 0781011/90

SOILS: RESOURCE CONCERNS:

name:

date:

WILDLIFE:

RESOURCE CONCERNS: Loss of wildlife habitat.

name: M.J. Weber

date: 2/6/91

RECREATION &amp;

RESOURCE CONCERNS:

VISUAL:

Non success to only valley is accessible. The lake crossings crossing Catherine Island. Changes to 184-65/66 and 184-119/120. Unit crossing due to 11-81

name:

date:

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06

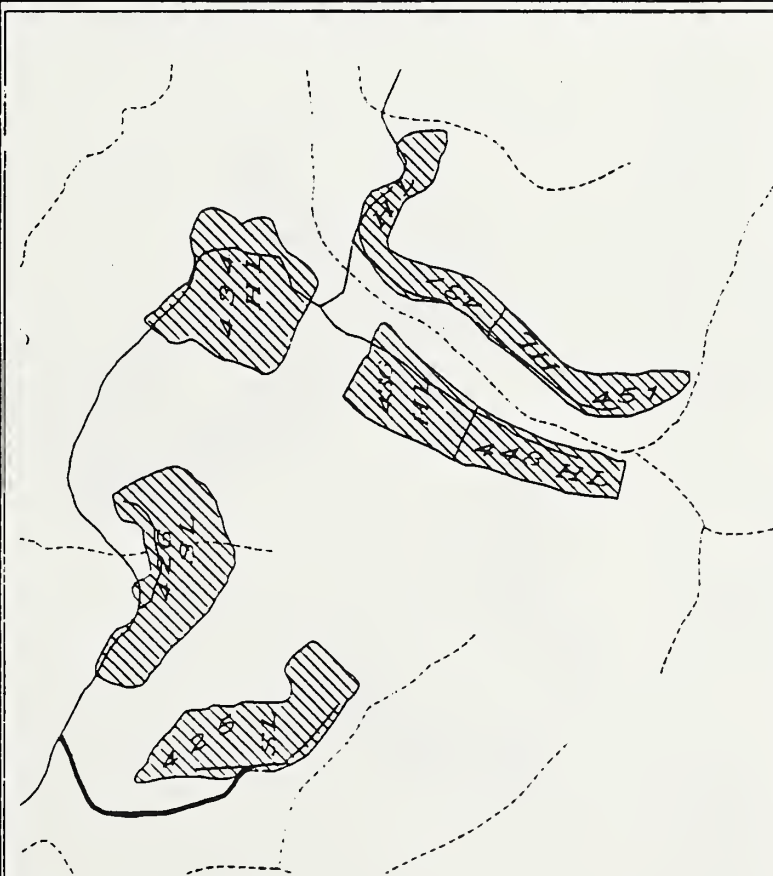


## ROAD SEGMENT # 7704 MILES

STATEMENT OF INTENT BY IDT: USE SURE, ROAD TO CONROL ROAD PRISM, SHORT TURN NOBB FOR ROAD,

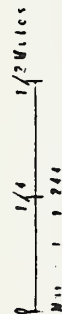
VCU	<u>297</u>	
Units Accessed		<u>425</u>
		Map Index

PHOTO INFO: YR 1984 FLT LN 488 STEREO PR 184-63/64  
1/4 QUAD ID:



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

<input checked="" type="checkbox"/>	ROAD NUM	2204
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ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS:	SOILS PERIOD	RESOURCE CONCERNS: CROSSES AREA OF UNSTABLE TO EASTERN W6 UNIT 425, ROCK PIT'S WHY BE LOCATED IN THIS UNIT OR UNIT 426.
--------	--------------	---

name: ~~B~~

name: W. C. C. C. date: 2/8/91  
 TIMBER-LOGGING RESOURCE CONCERNS: Unit 425 may need to be  
 reaccessed in 20-25 years for precommercial thinning. There is  
 additional volume available for future harvest.

name: *Richard R. Zakowski* date: *2/13/91*

FISHERIES &	RESOURCE CONCERNS:
-------------	--------------------

RESOURCE CONCERNS.  
No fish concerns V88 10/11/93

name:

SOILS:	RESOURCE CONCERNS:
--------	--------------------

date:

name:

## WILDLIFE:

**date:**

RESOURCE CONCERNS: Loss of wildlife habitat.

name: v

RECREATION &amp;

date: 2/6/91

**VISUAL:**

induced in the only valley parallel to the coast line in the  
other line 15. Charming for a few days in winter too. This makes

name: Changlo 0705 v1  
date: 10/13/96

name:

Reviewed by:

date:

title:

*John S. Bland* Bleepmaster  
Interdisciplinary Team Leader

date: 2/20/91

## ROAD DESIGN CARD

ROAD SEGMENT # 7705 MILES

STATEMENT OF INTENT BY IDT: UTILIZING SHORT TERM STBC ROAD TO RESOLVE SOILS CONCERNS AT BOTTOM OF UNITS. ROAD ROAD AS NARROW AS POSSIBLE TO REDUCE CONFLICTS.

VCU 297 447, 448  
Units Accessed 435, 436

Map Index

PHOTO INFO: YR 1984 FLT LN 49B STEREO PR/84-122/121  
1/4 QUAD ID:



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7705

0 1/4 1/2 3/4 1 1 1/4 2 2 1/4 3 3 1/4 4 4 1/4 5 5 1/4 6 6 1/4 7 7 1/4 8 8 1/4 9 9 1/4 10 10 1/4 11 11 1/4 12 12 1/4 13 13 1/4 14 14 1/4 15 15 1/4 16 16 1/4 17 17 1/4 18 18 1/4 19 19 1/4 20 20 1/4 21 21 1/4 22 22 1/4 23 23 1/4 24 24 1/4 25 25 1/4 26 26 1/4 27 27 1/4 28 28 1/4 29 29 1/4 30 30 1/4 31 31 1/4 32 32 1/4 33 33 1/4 34 34 1/4 35 35 1/4 36 36 1/4 37 37 1/4 38 38 1/4 39 39 1/4 40 40 1/4 41 41 1/4 42 42 1/4 43 43 1/4 44 44 1/4 45 45 1/4 46 46 1/4 47 47 1/4 48 48 1/4 49 49 1/4 50 50 1/4 51 51 1/4 52 52 1/4 53 53 1/4 54 54 1/4 55 55 1/4 56 56 1/4 57 57 1/4 58 58 1/4 59 59 1/4 60 60 1/4 61 61 1/4 62 62 1/4 63 63 1/4 64 64 1/4 65 65 1/4 66 66 1/4 67 67 1/4 68 68 1/4 69 69 1/4 70 70 1/4 71 71 1/4 72 72 1/4 73 73 1/4 74 74 1/4 75 75 1/4 76 76 1/4 77 77 1/4 78 78 1/4 79 79 1/4 80 80 1/4 81 81 1/4 82 82 1/4 83 83 1/4 84 84 1/4 85 85 1/4 86 86 1/4 87 87 1/4 88 88 1/4 89 89 1/4 90 90 1/4 91 91 1/4 92 92 1/4 93 93 1/4 94 94 1/4 95 95 1/4 96 96 1/4 97 97 1/4 98 98 1/4 99 99 1/4 100 100 1/4 101 101 1/4 102 102 1/4 103 103 1/4 104 104 1/4 105 105 1/4 106 106 1/4 107 107 1/4 108 108 1/4 109 109 1/4 110 110 1/4 111 111 1/4 112 112 1/4 113 113 1/4 114 114 1/4 115 115 1/4 116 116 1/4 117 117 1/4 118 118 1/4 119 119 1/4 120 120 1/4 121 121 1/4 122 122 1/4 123 123 1/4 124 124 1/4 125 125 1/4 126 126 1/4 127 127 1/4 128 128 1/4 129 129 1/4 130 130 1/4 131 131 1/4 132 132 1/4 133 133 1/4 134 134 1/4 135 135 1/4 136 136 1/4 137 137 1/4 138 138 1/4 139 139 1/4 140 140 1/4 141 141 1/4 142 142 1/4 143 143 1/4 144 144 1/4 145 145 1/4 146 146 1/4 147 147 1/4 148 148 1/4 149 149 1/4 150 150 1/4 151 151 1/4 152 152 1/4 153 153 1/4 154 154 1/4 155 155 1/4 156 156 1/4 157 157 1/4 158 158 1/4 159 159 1/4 160 160 1/4 161 161 1/4 162 162 1/4 163 163 1/4 164 164 1/4 165 165 1/4 166 166 1/4 167 167 1/4 168 168 1/4 169 169 1/4 170 170 1/4 171 171 1/4 172 172 1/4 173 173 1/4 174 174 1/4 175 175 1/4 176 176 1/4 177 177 1/4 178 178 1/4 179 179 1/4 180 180 1/4 181 181 1/4 182 182 1/4 183 183 1/4 184 184 1/4 185 185 1/4 186 186 1/4 187 187 1/4 188 188 1/4 189 189 1/4 190 190 1/4 191 191 1/4 192 192 1/4 193 193 1/4 194 194 1/4 195 195 1/4 196 196 1/4 197 197 1/4 198 198 1/4 199 199 1/4 200 200 1/4 201 201 1/4 202 202 1/4 203 203 1/4 204 204 1/4 205 205 1/4 206 206 1/4 207 207 1/4 208 208 1/4 209 209 1/4 210 210 1/4 211 211 1/4 212 212 1/4 213 213 1/4 214 214 1/4 215 215 1/4 216 216 1/4 217 217 1/4 218 218 1/4 219 219 1/4 220 220 1/4 221 221 1/4 222 222 1/4 223 223 1/4 224 224 1/4 225 225 1/4 226 226 1/4 227 227 1/4 228 228 1/4 229 229 1/4 230 230 1/4 231 231 1/4 232 232 1/4 233 233 1/4 234 234 1/4 235 235 1/4 236 236 1/4 237 237 1/4 238 238 1/4 239 239 1/4 240 240 1/4 241 241 1/4 242 242 1/4 243 243 1/4 244 244 1/4 245 245 1/4 246 246 1/4 247 247 1/4 248 248 1/4 249 249 1/4 250 250 1/4 251 251 1/4 252 252 1/4 253 253 1/4 254 254 1/4 255 255 1/4 256 256 1/4 257 257 1/4 258 258 1/4 259 259 1/4 260 260 1/4 261 261 1/4 262 262 1/4 263 263 1/4 264 264 1/4 265 265 1/4 266 266 1/4 267 267 1/4 268 268 1/4 269 269 1/4 270 270 1/4 271 271 1/4 272 272 1/4 273 273 1/4 274 274 1/4 275 275 1/4 276 276 1/4 277 277 1/4 278 278 1/4 279 279 1/4 280 280 1/4 281 281 1/4 282 282 1/4 283 283 1/4 284 284 1/4 285 285 1/4 286 286 1/4 287 287 1/4 288 288 1/4 289 289 1/4 290 290 1/4 291 291 1/4 292 292 1/4 293 293 1/4 294 294 1/4 295 295 1/4 296 296 1/4 297 297 1/4 298 298 1/4 299 299 1/4 300 300 1/4 301 301 1/4 302 302 1/4 303 303 1/4 304 304 1/4 305 305 1/4 306 306 1/4 307 307 1/4 308 308 1/4 309 309 1/4 310 310 1/4 311 311 1/4 312 312 1/4 313 313 1/4 314 314 1/4 315 315 1/4 316 316 1/4 317 317 1/4 318 318 1/4 319 319 1/4 320 320 1/4 321 321 1/4 322 322 1/4 323 323 1/4 324 324 1/4 325 325 1/4 326 326 1/4 327 327 1/4 328 328 1/4 329 329 1/4 330 330 1/4 331 331 1/4 332 332 1/4 333 333 1/4 334 334 1/4 335 335 1/4 336 336 1/4 337 337 1/4 338 338 1/4 339 339 1/4 340 340 1/4 341 341 1/4 342 342 1/4 343 343 1/4 344 344 1/4 345 345 1/4 346 346 1/4 347 347 1/4 348 348 1/4 349 349 1/4 350 350 1/4 351 351 1/4 352 352 1/4 353 353 1/4 354 354 1/4 355 355 1/4 356 356 1/4 357 357 1/4 358 358 1/4 359 359 1/4 360 360 1/4 361 361 1/4 362 362 1/4 363 363 1/4 364 364 1/4 365 365 1/4 366 366 1/4 367 367 1/4 368 368 1/4 369 369 1/4 370 370 1/4 371 371 1/4 372 372 1/4 373 373 1/4 374 374 1/4 375 375 1/4 376 376 1/4 377 377 1/4 378 378 1/4 379 379 1/4 380 380 1/4 381 381 1/4 382 382 1/4 383 383 1/4 384 384 1/4 385 385 1/4 386 386 1/4 387 387 1/4 388 388 1/4 389 389 1/4 390 390 1/4 391 391 1/4 392 392 1/4 393 393 1/4 394 394 1/4 395 395 1/4 396 396 1/4 397 397 1/4 398 398 1/4 399 399 1/4 400 400 1/4 401 401 1/4 402 402 1/4 403 403 1/4 404 404 1/4 405 405 1/4 406 406 1/4 407 407 1/4 408 408 1/4 409 409 1/4 410 410 1/4 411 411 1/4 412 412 1/4 413 413 1/4 414 414 1/4 415 415 1/4 416 416 1/4 417 417 1/4 418 418 1/4 419 419 1/4 420 420 1/4 421 421 1/4 422 422 1/4 423 423 1/4 424 424 1/4 425 425 1/4 426 426 1/4 427 427 1/4 428 428 1/4 429 429 1/4 430 430 1/4 431 431 1/4 432 432 1/4 433 433 1/4 434 434 1/4 435 435 1/4 436 436 1/4 437 437 1/4 438 438 1/4 439 439 1/4 440 440 1/4 441 441 1/4 442 442 1/4 443 443 1/4 444 444 1/4 445 445 1/4 446 446 1/4 447 447 1/4 448 448 1/4 449 449 1/4 450 450 1/4 451 451 1/4 452 452 1/4 453 453 1/4 454 454 1/4 455 455 1/4 456 456 1/4 457 457 1/4 458 458 1/4 459 459 1/4 460 460 1/4 461 461 1/4 462 462 1/4 463 463 1/4 464 464 1/4 465 465 1/4 466 466 1/4 467 467 1/4 468 468 1/4 469 469 1/4 470 470 1/4 471 471 1/4 472 472 1/4 473 473 1/4 474 474 1/4 475 475 1/4 476 476 1/4 477 477 1/4 478 478 1/4 479 479 1/4 480 480 1/4 481 481 1/4 482 482 1/4 483 483 1/4 484 484 1/4 485 485 1/4 486 486 1/4 487 487 1/4 488 488 1/4 489 489 1/4 490 490 1/4 491 491 1/4 492 492 1/4 493 493 1/4 494 494 1/4 495 495 1/4 496 496 1/4 497 497 1/4 498 498 1/4 499 499 1/4 500 500 1/4 501 501 1/4 502 502 1/4 503 503 1/4 504 504 1/4 505 505 1/4 506 506 1/4 507 507 1/4 508 508 1/4 509 509 1/4 510 510 1/4 511 511 1/4 512 512 1/4 513 513 1/4 514 514 1/4 515 515 1/4 516 516 1/4 517 517 1/4 518 518 1/4 519 519 1/4 520 520 1/4 521 521 1/4 522 522 1/4 523 523 1/4 524 524 1/4 525 525 1/4 526 526 1/4 527 527 1/4 528 528 1/4 529 529 1/4 530 530 1/4 531 531 1/4 532 532 1/4 533 533 1/4 534 534 1/4 535 535 1/4 536 536 1/4 537 537 1/4 538 538 1/4 539 539 1/4 540 540 1/4 541 541 1/4 542 542 1/4 543 543 1/4 544 544 1/4 545 545 1/4 546 546 1/4 547 547 1/4 548 548 1/4 549 549 1/4 550 550 1/4 551 551 1/4 552 552 1/4 553 553 1/4 554 554 1/4 555 555 1/4 556 556 1/4 557 557 1/4 558 558 1/4 559 559 1/4 560 560 1/4 561 561 1/4 562 562 1/4 563 563 1/4 564 564 1/4 565 565 1/4 566 566 1/4 567 567 1/4 568 568 1/4 569 569 1/4 570 570 1/4 571 571 1/4 572 572 1/4 573 573 1/4 574 574 1/4 575 575 1/4 576 576 1/4 577 577 1/4 578 578 1/4 579 579 1/4 580 580 1/4 581 581 1/4 582 582 1/4 583 583 1/4 584 584 1/4 585 585 1/4 586 586 1/4 587 587 1/4 588 588 1/4 589 589 1/4 590 590 1/4 591 591 1/4 592 592 1/4 593 593 1/4 594 594 1/4 595 595 1/4 596 596 1/4 597 597 1/4 598 598 1/4 599 599 1/4 600 600 1/4 601 601 1/4 602 602 1/4 603 603 1/4 604 604 1/4 605 605 1/4 606 606 1/4 607 607 1/4 608 608 1/4 609 609 1/4 610 610 1/4 611 611 1/4 612 612 1/4 613 613 1/4 614 614 1/4 615 615 1/4 616 616 1/4 617 617 1/4 618 618 1/4 619 619 1/4 620 620 1/4 621 621 1/4 622 622 1/4 623 623 1/4 624 624 1/4 625 625 1/4 626 626 1/4 627 627 1/4 628 628 1/4 629 629 1/4 630 630 1/4 631 631 1/4 632 632 1/4 633 633 1/4 634 634 1/4 635 635 1/4 636 636 1/4 637 637 1/4 638 638 1/4 639 639 1/4 640 640 1/4 641 641 1/4 642 642 1/4 643 643 1/4 644 644 1/4 645 645 1/4 646 646 1/4 647 647 1/4 648 648 1/4 649 649 1/4 650 650 1/4 651 651 1/4 652 652 1/4 653 653 1/4 654 654 1/4 655 655 1/4 656 656 1/4 657 657 1/4 658 658 1/4 659 659 1/4 660 660 1/4 661 661 1/4 662 662 1/4 663 663 1/4 664 664 1/4 665 665 1/4 666 666 1/4 667 667 1/4 668 668 1/4 669 669 1/4 670 670 1/4 671 671 1/4 672 672 1/4 673 673 1/4 674 674 1/4 675 675 1/4 676 676 1/4 677 677 1/4 678 678 1/4 679 679 1/4 680 680 1/4 681 681 1/4 682 682 1/4 683 683 1/4 684 684 1/4 685 685 1/4 686 686 1/4 687 687 1/4 688 688 1/4 689 689 1/4 690 690 1/4 691 691 1/4 692 692 1/4 693 693 1/4 694 694 1/4 695 695 1/4 696 696 1/4 697 697 1/4 698 698 1/4 699 699 1/4 700 700 1/4 701 701 1/4 702 702 1/4 703 703 1/4 704 704 1/4 705 705 1/4 706 706 1/4 707 707 1/4 708 708 1/4 709 709 1/4 710 710 1/4 711 711 1/4 712 712 1/4 713 713 1/4 714 714 1/4 715 715 1/4 716 716 1/4 717 717 1/4 718 718 1/4 719 719 1/4 720 720 1/4 721 721 1/4 722 722 1/4 723 723 1/4 724 724 1/4 725 725 1/4 726 726 1/4 727 727 1/4 728 728 1/4 729 729 1/4 730 730 1/4 731 731 1/4 732 732 1/4 733 733 1/4 734 734 1/4 735 735 1/4 736 736 1/4 737 737 1/4 738 738 1/4 739 739 1/4 740 740 1/4 741 741 1/4 742 742 1/4 743 743 1/4 744 744 1/4 745 745 1/4 746 746 1/4 747 747 1/4 748 748 1/4 749 749 1/4 750 750 1/4 751 751 1/4 752 752 1/4 753 753 1/4 754 754 1/4 755 755 1/4 756 756 1/4 757 757 1/4 758 758 1/4 759 759 1/4 760 760 1/4 761 761 1/4 762 762 1/4 763



## ROAD DESIGN CARD

ROAD SEGMENT # 7706 MILESSTATEMENT OF INTENT BY IDT: KEEP ROAD AS HIGHWAY AS POSSIBLE TO REDUCE SOIL AND HYDROLOGY CONCERNS.VCU 297Units Accessed 437, 451

Map Index \_\_\_\_\_

PHOTO INFO: YR 1984 FLT LN 49B STEREO PR 184-121/122  
1/4 QUAD ID: \_\_\_\_\_☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 7706

1" = 1/4" 1/2" 1/4" 1/8" 1/16"

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: \_\_\_\_\_ RESOURCE CONCERNS: ROCK PITS PROBABLE IN UNIT 431

name: \_\_\_\_\_

date: 2/14/91TIMBER-LOGGING RESOURCE CONCERNS: Unit 437 may need to be accessed in 3-5 years for planning.name: Richard R. Zuberkedate: 2/13/91

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY:

Noted concern 1088 19/11/90EMPHASIZED ROAD CONSTRUCTION CONCERNS, DK 1-10 71

name: \_\_\_\_\_

date: \_\_\_\_\_

SOILS: \_\_\_\_\_ RESOURCE CONCERNS: Soil review requestedRead associated with high bar soils

name: \_\_\_\_\_

date: 2/28/91WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: Loss of wildlife habitat.name: M.J. Weberdate: 2/16/91

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: 2/28/91

name: \_\_\_\_\_

date: \_\_\_\_\_

Reviewed by: note request for soils Review of record2/28/91

title: \_\_\_\_\_

James S. Bernal Bryanaki

Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06

STATEMENT OF INTENT BY IDT: HYDROLOGY TO BE INVOLVED WITH ROAD LAYOUT TO RESOLVE THEIR CONCERNS.  
 Pipeline process may be needed for environmental impact.

VCU 297  
 Units Accessed 441 Map Index

PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 284-1817  
 1/4 QUAD ID:



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7708

1/4 1/200000  
 Map scale 1:22000

ROAD MGT OBJ.  
 SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: KEEP ROAD IN UNIT OUT OF THE STORM BUFFER. LONG TERM NEEDS FOR FIRST PART OF ROAD AT LEAST TILL IT ENTERS UNIT 441. ROAD VOLUMES CAN BE REDUCED FROM HERE.

name: J. Carter date: 3/2/91  
 TIMBER-LOGGING RESOURCE CONCERNS: No anticipated post sale needs. Additional volume available for future harvest.

name: Richard R. Zolner date: 2/13/91  
 FISHERIES & RESOURCE CONCERNS:  
 HYDROLOGY: No fish concerns UG 8 10/11/90  
 Little evidence of fish in it according to Hatched, low concern, due to 1/4

name: SOILS: RESOURCE CONCERNS: date:

name: WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. date:

name: M.J. Weber date: 2/6/91  
 RECREATION & RESOURCE CONCERNS:  
 VISUAL:

Environmental impacts and no further impact on riparian habitat for riparian habitat. Change to 100% riparian habitat. date: 10/2/90  
 name: CULTURAL: RESOURCE CONCERNS:

name: Reviewed by: date:

title: J. S. Brown Bingham Interdisciplinary Team Leader date: 2/20/91





## ROAD DESIGN CARD

ROAD SEGMENT # 7730 (R) MILES

STATEMENT OF INTENT BY IDT: no concerns noted.  
Concerns for road, a problem to water quality  
observed can be mitigated by BMPs in soil retention.  
Concerns for road, FSA 2502.22.

VCU 297 419, 420, 418  
 Units Accessed 419, 421, 422

Map Index

PHOTO INFO: YR 19 84 FLT LN 483 STEREO PR 84-6768  
 1/4 QUAD ID: 64

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 7730

1/4 QUAD

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: NO CONCERNS. ROCK PITS  
LOCATED ALONGSIDE OF ROAD.

name:

date: 2/11/91

TIMBER-LOGGING: RESOURCE CONCERNS: Unit 420 may need to be  
accessed in 3-5 years for planing. Units 417 418 419 may need to be  
accessed in 20-25 years for precommercial thinning. There is  
additional volume available for future harvest.  
 name: Redwood R. Zellerbach date: 7/13/91

FISHERIES & RESOURCE CONCERNS:HYDROLOGY: no fish concerns 10/11/90

No concerns are known because of the  
reconstruction of the road in the road shoulder area.  
Design required for the road shoulder area.  
 name: Superior road 419, DC date: 2/27/91

SOILS:

RESOURCE CONCERNS:

name:

date:

WILDLIFE: RESOURCE CONCERNS: No additional loss of habitat  
out vehicle access after sale undesirable because of impacts to  
deer & marten.

name: M. J. Weberdate: 2/6/91RECREATION & RESOURCE CONCERNS:

VISUAL:

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 7730 (N) MILES

STATEMENT OF INTENT BY IDT: POSSIBLE INCORPORATED SEGMENT  
 ROAD TO CHAS I STRENGTH FROM EXISTING SLIDE, NEEDED  
 BRIDGE IN "V" NOTCH IN UNIT 419, USE NATURAL  
 LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN PARK  
 STRAIT ON RIDGE TOPS. Additional volume available  
 for future harvest.

VCU 297 421, 422, 412  
 Units Accessed 409

Map Index

PHOTO INFO: YR 1984 FLT LN 488 STEREO PR 184-66/67  
 1/4 QUAD ID: 47D 184-38/35



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7730

1 1/4 INCHES

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ROAD CROSSES FORMER  
 SLIDE, WILL NEED A LONG TERM BRIDGE IN UNIT 419.  
 ROAD ACCESSES FUTURE VOLUME.

name: A. C. C. date: 2/12/91

TIMBER-LOGGING: RESOURCE CONCERNS: Unit 409 may need to be  
 accessed in 20-25 years for pre-commercial thinning. There is  
 additional volume available for future harvest.

name: Richard R. Zelenka date: 2/13/91

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY: No fish concern 1/28 10/11/90

low current with no barrier between them OK 1/11/91

name:

SOILS:

RESOURCE CONCERNS:

date:

name:

WILDLIFE:

RESOURCE CONCERNS: Loss of wildlife habitat.

date:

name: M.J. Weber

RECREATION &amp;

VISUAL:

RESOURCE CONCERNS:

date: 2/6/91

name:

CULTURAL:

RESOURCE CONCERNS:

date:

name:

Reviewed by:

date:

title:

James S. Binard Binard  
 Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06

ROAD SEGMENT #	MILES
7735	

STATEMENT OF INTENT BY IDT: USE NATURAL LANDSCAPES TO SCREEN ROAD CUTS FROM UNIT #28 TO END ALONG KILLBUCK. APPROX. 1/2 MI. TO BE INVOLVED IN ROAD LAYOUT THROUGH THIS SAME AREA. SOLES TO BE INVOLVED IN ROAD LAYOUT DOWN INTO UNIT #28. Additional work is being noted for future project.

VCU 297

Units Accessed 427,428,429

Map Index

PHOTO INFO: YR 19 84 FLT LN 49B STEREO PR 184-118/17  
1/4 QUAD ID: \_\_\_\_\_

☒ ACCESS RDS SHORE LINES

CLASS 1 & 2 STRMS

☒ ROAD NUM 7735

[illegible]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS:                      RESOURCE CONCERNS: ROAD HAS 14'-16' FAVORABLE GRADE. LAST 0.90 MILES IS PAVING BE SHUNT TOWN BECAUSE OF VISUAL AND HYDROLOGIC CONCERNS.

name:

**TIMBER-LOGGING** RESOURCE CONCERNS: Units 427 and 425 may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available for future harvest.

name: Richard A. Zelnick

name: <i>Robert R. Zupers</i>	RESOURCE CONCERNS:
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## HYDROLOGY:

name:

SOILS:	RESOURCE CONCERNS:
--------	--------------------

**name:**

WILDLIFE:	RESOURCE CONCERNS:
Limit vehicle access to disjunctive	Loss of wildlife habitat. Less of wild life habitat. impact of the bear and moose, i.e.

name: M. J. Huber

RECREATION &	RESOURCE CONCERNS:
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**VISUAL:**

the operation has raised considerably the road charges to the  
benefit of the Government.

**name:**

CULTURAL:	RESOURCE CONCERNS:
-----------	--------------------

name:

Reviewed by:

title:

## Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06



STATEMENT OF INTENT BY IDT: SOILS TO BE INVOLVED WITH ROAD LOCATION AND DESIGN BE CAUSE OF UNSTABLE SOILS IN NATAL UNIT 431. USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN CHATHAM STRAIT. Additional volume for future lease.

VCU

297

Units Accessed 432, 431, 438, 450 Map Index

PHOTO INFO: YR 1984 FLT LN 493 STEREO PR 84-118/119/120  
1/4 QUAD ID:

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 7736

1 1/4 1/2 miles  
0 1 2

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: FIRST 1.02 MILES IS LONG TAIL 50 BRIDGE ACROSS CLASS II STREAM NEEDS TO BE PERMANENT. THE CULVERTS IN THE REMAINING CROSSINGS NEED TO BE ONSIZE TO REDUCE SEDIMENT DELIVERY.

name: *A. L. L.* date: 2/11/91

TIMBER-LOGGING RESOURCE CONCERNS: Unit 438 may need to be accessed in 3-5 years for planting. There is additional volume available for future harvest.

name: *Richard R. Zylinski* date: 2/13/91

FISHERIES & RESOURCE CONCERNS: *EMPHASIS ON CONTROL OF EXHAUSTION, SUSTAINING MATERIAL AND IN COMMUNE OPERATIONS AROUND SUSTAINING OPERATIONS, ON CLASS II STREAM. DIC*

HYDROLOGY:

name:

SOILS: RESOURCE CONCERNS:

date:

name:

WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Vehicle access undesirable because of impacts to bear, marten and subsistence.

name: *M.J. Weber* date: 2/6/91

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

*The vegetation has been removed for construction of the project. The vegetation has been removed for construction of the project.*

name:

CULTURAL: RESOURCE CONCERNS:

date: 10/15/90

name:

Reviewed by:

date:

title:

Interdisciplinary Team Leader

date: 2/24/91

GMA-1900-06

*John S. Berman Beggs*

ROAD SEGMENT #	MILES
7740 (R)	

STATEMENT OF INTENT BY IDT: KOBEP ROAD CLIPPING TO A MINIMUM. TWO BRIDGES WILL BE NEEDED, APPROX. 1000S LOCATED ALONG ROAD WITH PROBABILITY OF ARCH. SITES, BUT THIS IS RECONSTRUCTION along an existing road, so mitigation would apply to archeology sites and species. Future covered speech about when you find commercial forest.

VCU 297

Units Accessed NE CATHETER

## Map Index

86/5

PHOTO INFO: YR 19 84/ FLT LN STEREO PR

1/4 QUAD ID: 10 184-67



ACCESS RDS  
SHORE LINES  
CLASS 1 & 2

☒ ROAD NUM 2740

CLASS 1 & 2 STRMS.

1/4 1/2 Miles

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS:	RESOURCE CONCERNS: TULO POLYMER AND SPIN DOCT WILL BE ABANDONED AS FUTURE MINERAL IS ANTICIPATED. BACK PITS LOCATED ALL ALONG ROAD.
--------	---

name:

date: 2/11/02

TIMBER-LOGGING	RE SOURCE CONCERNS: UNITS 420, 438, 439 may need to be accessed in 3-5 years for planning. Units 419, 427, 428 may need to be accessed in 10-25 years for precommercial thinning. There is additional volume available for future harvest.
name: <u>Redwood</u>	date: <u>2/13/91</u>

name: <i>Redwood</i>	FISHERIES & RESOURCE CONCERNS:
<i>1-2-26-74</i>	

### HYDROLOGY:

**HYDROLOGY:**

1. Climate & land use are the most important factors in determining the hydrology of a region.

2. Climate & land use are the most important factors in determining the hydrology of a region.

Class / stream crossings 678

name:

name:		
SOILS:		RESOURCE CONCERNS:

name:

name:	RESOURCE CONCERNS:	date:
WILDLIFE:	partially in beach fringe and w/in 330' of eagle trees. Deny vehicle access off- <u>scale</u> to mitigate impact to bear; maintain & subsistence.	date: 2/6/91
name:	M. J. Tuxbee	

name: M. T. Urebe

RECREATION &	RESOURCE CONCERNS:

**VISUAL:**

name:

date: 10/10/10

CULTURAL:	RESOURCE CONCERNS:
-----------	--------------------

name:

date: \_\_\_\_\_

Reviewed by:

title: Answers to Baccarat Dec. 2013 Q's date: 2/20/14

CMA-1900-06



STATEMENT OF INTENT BY IDT: NEED BRIDGE ACROSS CLASSI  
STREAM. IN AREA OF HIGH PROBABILITY OF ARCHAEOL  
CONCERNS, AND WOULD BE SURVEYED AND ELIMINATED PER  
TO ANY HISTORIC ACTIVITIES. ADDITIONAL WORK TO BE  
CONDUCTED IN THE FUTURE PERMANENTLY ITS REMOVAL

VCU 297Units Accessed 439

Map Index

PHOTO INFO: YR 19 84 FLT LN 50 STEREO PR 284-22  
 1/4 QUAD ID:

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 2740

1/4 1/2 Miles  
 Map scale 1:45452

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: THE FIRST 0.17 MILES, TO  
THE INTERSECTION WITH 2735 WILL BE ABOUT 1000  
ACROSS THE REMAINING 0.56 MI WILL BE ABOUT 1000, WILL NEED  
A BRIDGE ON THE CLASSI STREAM WHICH IS WHY ITS A  
SPECIALTY TEAM TOPIC. date: 2/12/91

TIMBER-LOGGING RESOURCE CONCERNS: Unit 439 may need to be  
accessed in 35 years for planning. There is additional volume  
available for future harvest.

name: Railroad R. Zolovickdate: 2/13/91

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY: CRITICAL Saturated alluvium of a cubic ft. just above  
intersection of 2735. On slope use bridge on crossing  
of Class 1 stream vgs

name:

date:

SOILS: RESOURCE CONCERNS:

name:

date:

WILDLIFE:

RESOURCE CONCERNS: Loss of wildlife habitat.name: M. J. Weberdate: 2/6/91

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

Change to Class 1 stream, new water

name:

date:

CULTURAL: RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: 2/20/91

GMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 75321 (R) MILES

STATEMENT OF INTENT BY IDT: <u>CLEAR ONLY THE WIDTH</u> <u>NEEDED TO REMOVE VISUAL CONCERNS. NO SURV</u> <u>CONCERNS. Future access needed for precommercial thinning</u> <u>and commercial Timber harvest.</u>		ROAD MGT OBJ. SYNOPSIS	
VCU <u>296</u> Units Accessed <u>331,334,357</u> Map Index _____		Road Management Objectives are on file in Chatham SO. _____	
PHOTO INFO: YR <u>1984</u> FLT LN <u>46</u> STEREO PR <u>84-78/77</u> 1/4 QUAD ID: _____		ROADS: _____ RESOURCE CONCERNS: <u>NO CONCERNS. LONG TERM</u> <u>ROAD TO ACCESS FUTURE HARVEST.</u>	
		name: <u>J. Faust</u> date: <u>2/14/91</u>	
		TIMBER-LOGGING RESOURCE CONCERNS: <u>Units 331,334 and 357 may</u> <u>need to be accessed in 20-25 years for precommercial thinning.</u> <u>There is additional volume available for future timber harvest.</u>	
		name: <u>Robert R. Zedler</u> date: <u>2/12/91</u>	
		FISHERIES & RESOURCE CONCERNS: _____ HYDROLOGY: <u>no fish concern UGS 10/10/90</u> <u>Mid-range Seabird: Delivered Permitted to start active, OK 1/19/91</u> <u>And Short Seabird OK active I.</u>	
name: _____ date: _____		SOILS: _____ RESOURCE CONCERNS: <u>No soils concerns.</u>	
name: <u>R. Huerfano</u> date: <u>2/15/91</u>		WILDLIFE: _____ RESOURCE CONCERNS: <u>no additional habitat loss.</u>	
name: <u>M.J. Weber</u> date: <u>2/6/91</u>		RECREATION & RESOURCE CONCERNS: _____ VISUAL: _____	
name: _____ date: _____		CULTURAL: _____ RESOURCE CONCERNS: _____	
name: _____ date: _____		Reviewed by: _____	
title: _____		Interdisciplinary Team Leader	

GMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 7741 MILES

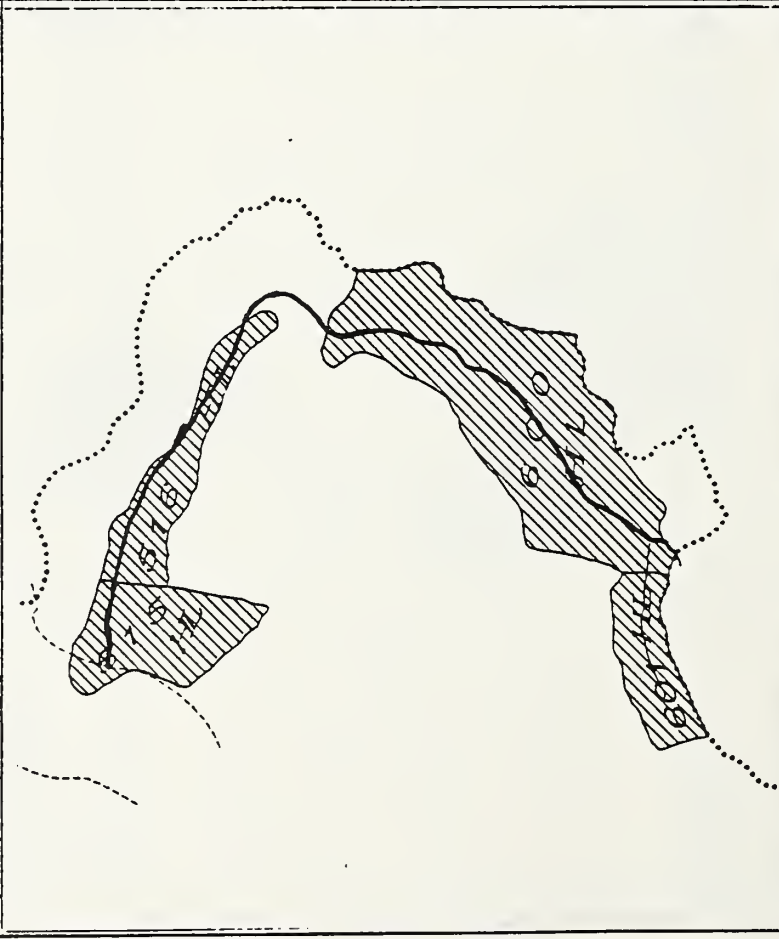
STATEMENT OF INTENT BY IDT: CONCERN FOR VISUALS FROM PARK STRAIT. LOSS OF PEAK WINTER RANGE. Addition of volcanic ash future harvest. Possible road access to plotting 3-5 yrs after harvest. BOP in FSH 250722 will minimize work of road and transport		ROAD MGT OBJ. SYNOPSIS	
VCU <u>297</u> Units Accessed <u>4/6</u> Map Index _____		Road Management Objectives are on file in Chatham SO.	
PHOTO INFO: YR <u>19 84</u> FLT LN <u>472</u> STEREO PR <u>84-33</u> 1/4 QUAD ID: _____		ROADS: _____ RESOURCE CONCERNS: <u>NO CONCERNS.</u>	
		name: <u>J. G. Galt</u> date: <u>2/11/91</u>	
		TIMBER-LOGGING RESOURCE CONCERNS: Unit 4113 may need to be accessed in 3-5 years, for planning. There is additional volume available for future harvest.	
		name: <u>Richard R. Zelenka</u> date: <u>2/13/91</u>	
		FISHERIES & RESOURCE CONCERNS: HYDROLOGY: <u>NO CONCERNS ON 1/11/91</u>	
		Possible increased sediment delivery to Clausen Creek. DGS. 1/15/91	
name: _____ date: _____		SOILS: _____ RESOURCE CONCERNS: _____	
name: _____ date: _____		WILDLIFE: _____ RESOURCE CONCERNS: <u>no additional loss of habitat,</u> <u>vehicle access undesirable.</u>	
name: <u>Mal Weber</u> date: <u>2/6/91</u>		RECREATION & RESOURCE CONCERNS: _____	
VISUAL: _____		name: _____ date: _____	
Changes to RDS & Road Lines marked on view.		name: _____ date: <u>10/2/90</u>	
name: _____		CULTURAL: _____ RESOURCE CONCERNS: _____	
name: _____		Reviewed by: _____	
<input checked="" type="checkbox"/> ACCESS RDS <input checked="" type="checkbox"/> SHORE LINES <input checked="" type="checkbox"/> CLASS 1 & 2 STRMS		<input checked="" type="checkbox"/> ROAD NUM <u>7741</u> 0 " 11.1' 1/2000	
title: _____		Interdisciplinary Team Leader	
date: <u>2/20/91</u>		GMA-1900-06	

## ROAD DESIGN CARD

ROAD SEGMENT # **7567** MILES **0.61**

STATEMENT OF INTENT BY IDT: USE LANDFILL AS A BUFFER BETWEEN ROAD AND MINUTAN TO SHIELD ROAD BUT FROM VIEW IN KEEPS ROAD MINUTAN 330' BUFFER FROM EDGE OF TRAIL. PROVIDES FOR ADEQUATE CULVERT SIZING. LONG TERM OCCAS NEEDS FOR FUTURE WORKING ABOVE UNITS 515, 516. IMPROVEMENT RAMP. S.

Potential for future timber harvest, and permanent road turning.

VCU **314298**Units Accessed **600, 601, 515, 516** Map Index **SITKA B3-5W**PHOTO INFO: YR **1984** FLT LN **46** STEREO PR **284-82**1/4 QUAD ID: **B3-5W**☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM **7567**

1/4 1/2 Miles

Map scale 1:18828

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: ROAD SITE IS CLOSE TO FALLOUT TREE. MINUTAN 550' BUFFER. APPROXIMATE 100' STRIP OF EXISTING INTERIOR ROAD BLENDS INTO ROAD. JUST NORTH OF UNIT 600 CONCERN FOR ADEQUATE CULVERT SIZING AT STREAM CROSSING. IN MIDDLE OF UNIT 515.

name: **1984** date: **2/11/91**

TIMBER-LOGGING RESOURCE CONCERNS: Units 600 and 601 may need to be accessed in 20-25 years for permanent thinning. Short spur road will be needed to access streambed leading in unit 600, potential for future logging beyond unit 515, but this would probably be needed for helicopter.

name: **Robert R. Zabriskie** date: **2/14/91**FISHERIES & RESOURCE CONCERNS: **two fish concerns UGS 8-14-90**

HYDROLOGY:

name:

SOILS:

RESOURCE CONCERNS: No soils concerns.

date:

name: **R. Hueschen**

WILDLIFE:

date: **2/13/91**

RESOURCE CONCERNS: Loss of high value deer winter range. Road stays 500 feet from the beach where possible to protect beach fringe habitat. Possibly within 30 feet of 3 eagle trees.

name: **Michael J. Weber** date: **8/10/90**

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

Access road will provide roadhead from back to front of point to be used. No road to be built. Best from road. Changes to be made. Name: **1984** date: **9/27/90**

CULTURAL:

RESOURCE CONCERNS:

See Research Design for Promissibility Area **WMS**

name:

date: **8/15/90**

Reviewed by:

title:

**Interdisciplinary Team Leader**date: **2/20/91**

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 7535 MILES 5.39

STATEMENT OF INTENT BY IDT: CONSTRUCT LOG STRUNG  
BRIDGES TO ALLOW FOR ROAD PASSAGE. LOCATE ROAD  
OUTSIDE OF STREAM BEDS, EXCEPT CROSSINGS WHICH  
SHOULD BE APPROPRIATE. Road planning and preconstruction  
activity activities likely in the future.

VCU 298 519, 527, 521, 529, 531  
Units Accessed 518, 525, 526, 528, 532 Map Index SITKA B4-SE  
523, 524 276-9/10  
PHOTO INFO: YR 19 FLT LN STEREO PR  
1/4 QUAD ID: B4-SE



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7535

Map scale 1:64161  
1 Miles

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: minimum of 400 stream  
crossings needed. 100 stream crossings at 524 is  
critical. All other units located along road.

name: Alvord date: 2/4/91  
TIMBER-LOGGING/RESOURCE CONCERNS: Units 524, 525, 526 and 531 may  
need to be accessed in 20-25 years for precommercial thinning. Units  
523 and 528 may need to be accessed in 3-5 years for possible hand  
planting.

name: Richard R. Zeleny date: 2/1/91  
FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: No fish concerns off 8-14-90  
First 42 miles of units in moderate low stream unit, Preserves low  
level of concern. Dec 1991 of stream bed, concerns of access in  
streaming and access of 3. to 100 km.

name:  date:   
SOILS: RESOURCE CONCERNS: No soils concerns

name: R. L. Kowalski date: 2/15/91  
WILDLIFE: RESOURCE CONCERNS: Loss of stream bank, many  
within road corridor of newly constructed segment. Long-term  
access is inadequate because of human wildlife conflicts.

name: Michael J. C. C. date: 2/14/91  
RECREATION & RESOURCE CONCERNS:

name:  date:   
VISUAL: Changes to road conditions, some trees

name:  date: 2/15/91  
CULTURAL: RESOURCE CONCERNS:

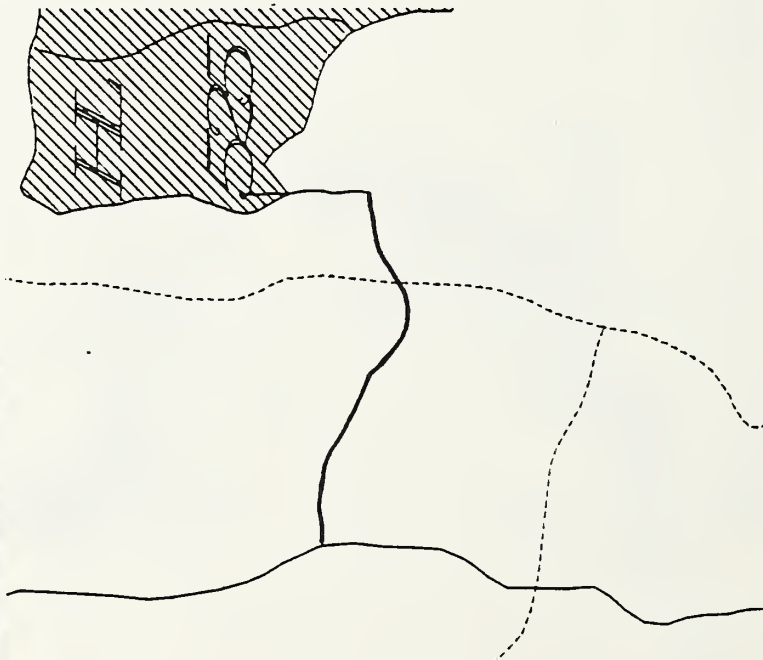
name:  date: 2/15/91  
Cultural: Use of stream for (Preserving) stream

name:  date: 2/15/91  
Reviewed by:

title: James S. Beane, B. Beane date: 2/20/91  
Interdisciplinary Team Leader

CMA-1900-06

STATEMENT OF INTENT BY IDT: PROVIDE FOR FISH PASSAGE UNDER LOG STEAMER BRIDGE. IMPLEMENT BMP'S.

VCU 298Units Accessed 525, 526Map Index SITKA BASEPHOTO INFO: YR 19 FLT LN \_\_\_\_\_ STEREO PR \_\_\_\_\_1/4 QUAD ID: B4-SE☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ ROAD NUM 753511/4

Map scale 1:6000

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: will access log stream on class 1 stream. use temporary road farm end of road to unit 525. end of road is planned to allow stream access for units 526 and 527.

name: Michael T. Tuck date: 2/15/90  
TIMBER-LOGGING RESOURCE CONCERNS: Units 525 and 526 may need to be accessed in 20-25 years for commercial thinning. Helicopter volume from unit 526 will come to the landing in unit 525.name: Richard R. Tuck date: 2/14/91  
FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: Fish passage at main crossing on class 1 stream. Log stream bridge used to facilitate fish passage. USGS stream B-14-90name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: RESOURCE CONCERNS:name: \_\_\_\_\_ date: \_\_\_\_\_  
WILDLIFE: RESOURCE CONCERNS: NO CONCERNS.name: Michael Tuck date: 2/14/90  
RECREATION & RESOURCE CONCERNS:  
VISUAL:name: \_\_\_\_\_ date: 2/15/90  
CULTURAL: RESOURCE CONCERNS:  
for research design for observability area with D.name: \_\_\_\_\_ date: 2/15/90  
Reviewed by:title: James S. Bennett, Benjamin date: 2/20/91  
Interdisciplinary Team Leader

GMA-1900-06



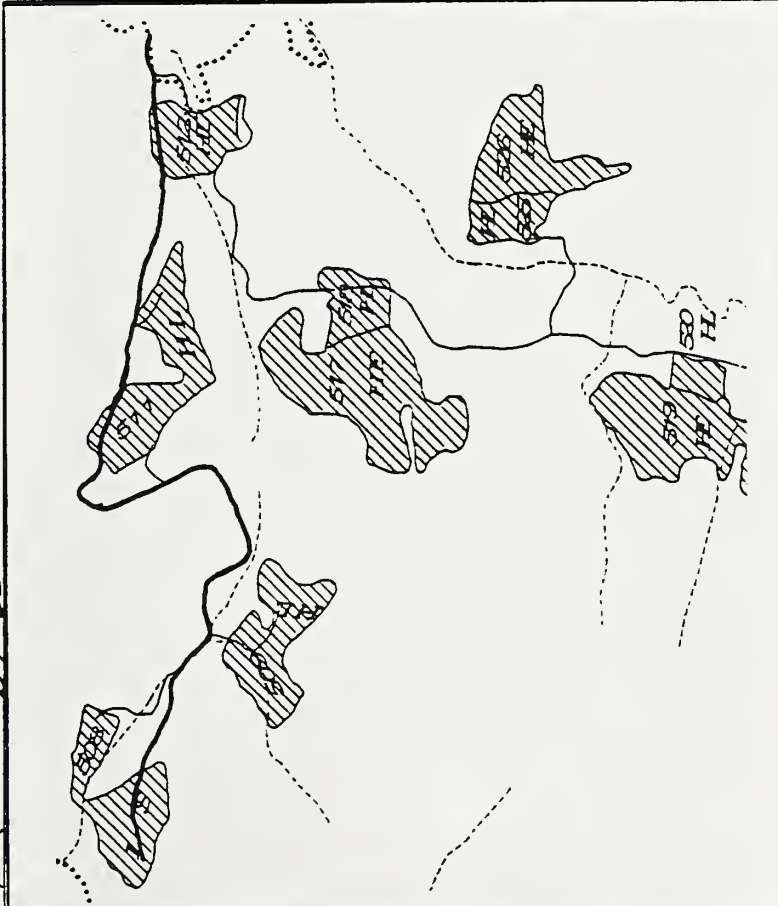
## ROAD DESIGN CARD

ROAD SEGMENT # **7538**MILES **2.41**

STATEMENT OF INTENT BY IDT: FISHERIES AND HYDROLOGY TO BE INVOLVED IN SIZING LOG, BRANCH AND CUMBERS, USF 2 AND FISHES TO SHIELD ROAD CUTS FROM VIEW IN MIDDLE ARM. LOOK OUT OF BUFFER STRIP ON CLASS 1 STREAMING NOISE LIFE.

ROAD MGT OBJ.  
SYNOPSIS

VCU **298** Map Index **508, 509, 511** Map Index **508A, B4-SE**  
 Units Accessed **508, 509, 511** **276 - 20/202**  
 PHOTO INFO: YR **19** FLT LN STEREO PR  
 1/4 QUAD ID: **84-SE**



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

ROAD NUM **7538**

1/4 1/2 Miles  
 Map scale 1:25663

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: LANDING AT SUM OF ROAD IN UNIT 508 TO BE DESIGNATED FOR HORIZONAL USE. MINIMUM OF TWO (2) 100' STRIPPED BUNDLES NEEDED FOR WATERCUTS WILL HAVE TO BE CARRIED IN TERRAIN ON EAST SIDE OF UNIT 508.

name: *Richard R. Zebner* date: **2/4/91**

TIMBER-LOGGING RESOURCE CONCERNS: Unit 508 may need to be accessed in 20-25 years for precommercial thinning. Units 509 and 511 may need to be accessed in 3-5 years for hard planting.

name: *Richard R. Zebner* date: **2/4/91**

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY: Fish passage in unit 512 and at lake outlet. Proximity of road to lake. Road pulled back at least 50' from lake, bridges used to cross stream. US B-14-60. Low concerns over stream. December, 1991

name: *Richard R. Zebner* date: **2/4/91**

SOILS: RESOURCE CONCERNS: No soils concerns

name: *Richard R. Zebner* date: **2/13/91**

WILDLIFE: RESOURCE CONCERNS:

Within road corridor, impact on highland bird habitat on right with secondary fringe. Access to vehicles after logging.

name: *Richard R. Zebner* date: **8/14/90**

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

Potential road the former road change to 25' shoulders in unit 508.

name: *Richard R. Zebner* date: **8/14/90**

CULTURAL: RESOURCE CONCERNS:

As Branch Gauge for Ponding Area (KAL)

name: *Richard R. Zebner* date: **8/14/90**

Reviewed by:

title: *James S. Bland, Bland*  
 Interdisciplinary Team Leader

date: **2/20/91**

CMA-1900-06





## ROAD DESIGN CARD

ROAD SEGMENT #BOURBON LTF MILES

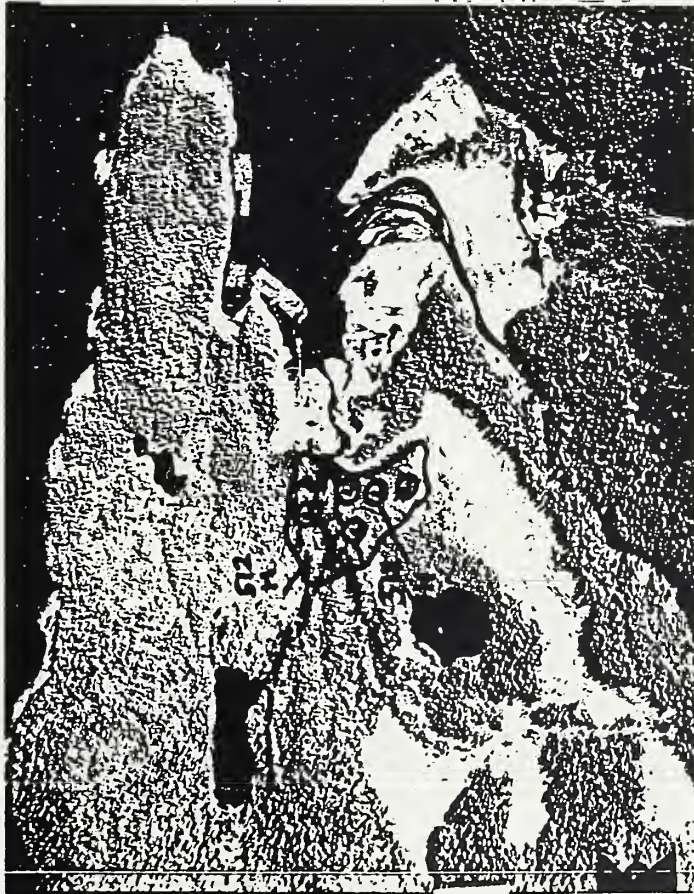
STATEMENT OF INTENT BY IDT: PROVIDE FOR FUTURE STAKEHOLDERS ON SITE OF SOUTHERN HIGHWAY INTERMOUNT BARRIERS FOR WATER SOURCE AND SANITATION. LEAVE STAKEHOLDERS OF TRAILS BETWEEN CAMPS AND BAH 106 STAKEHOLDERS TO BE OWNED BY BOTH SIDES OF WAY TO PREVENT ENCROACHING OF RIGHTS

FUTURE CONCERNS AND TIMBER HARVEST OPPORTUNITIES

VCU 298 Units Accessed VCU 298 Map Index SUTKA B4-5E

PHOTO INFO: YR 19 FLT LN STEREO PR

1/4 QUAD ID: PLANNED (ORTHO PHOTO) SCALE: STEREO PR



## LEGEND

CLASS I STREAM  
CLASS II STREAM  
CLASS III STREAM  
BUFFER ZONE  
LANDING

305  
HUNIT BOUNDARY, NUMBER,  
+ LOGGING METHODEXISTING ROAD  
PLANNED ROADROAD MGT OBJ.  
SYNOPSIS

N/A

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: will need to extend road as part of the LTF session, camp to be located in same place with expansion possible to the east. That camp location to be located in LTF area. LTF will need previous road around to forest camp.

name: Leaf date: 2/1/90

TIMBER-LOGGING RESOURCE CONCERNS: Potential for future logging exists, additional volume still available for future harvest.

name: Richard R. Zaborie date: 2/14/91

FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: No direct concerns with impacts to fish habitat. Indirect concerns with concentration of people in stream with impacts on fish and marine resources.

name: Leaf date: 2/1/90

name: Leaf date: 2/1/90

SOILS: RESOURCE CONCERNS:

name: Leaf date: 2/1/90

WILDLIFE: RESOURCE CONCERNS: An additional concern is the potential for a large number of birds to be affected by the use of the area.

name: Leaf date: 2/1/90

RECREATION & VISUAL: RESOURCE CONCERNS:

name: Leaf date: 2/1/90

CULTURAL: RESOURCE CONCERNS: Potential for future logging exists, additional volume still available for future harvest.

name: Leaf date: 2/1/90

Reviewed by:

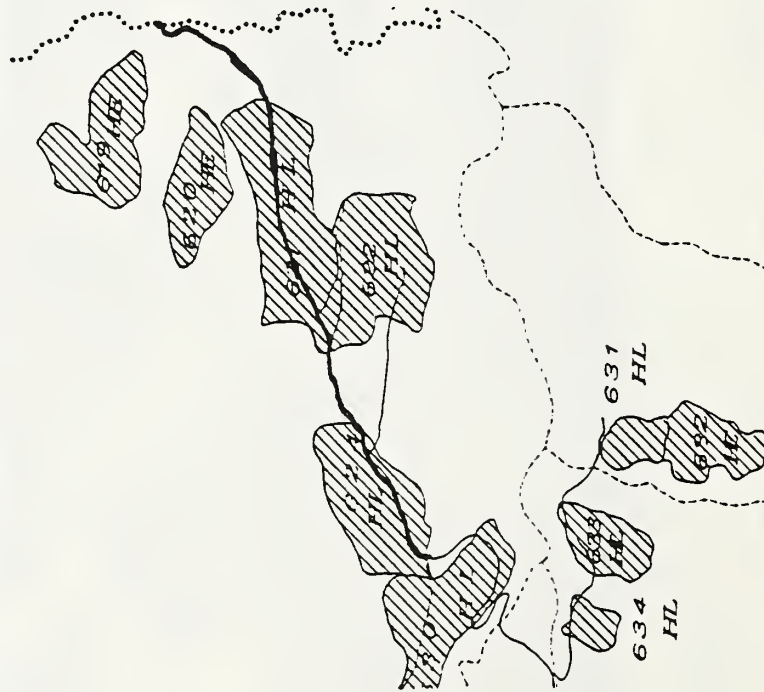
title: Interdisciplinary Team Leader date: 2/20/91

name: James S. Burns

STATEMENT OF INTENT BY IDT: TRY TO MAINTAIN TREE SCREEN  
OF ROAD TO THE RIDGETOP STAY AFAIR AWAY FROM THE  
PINE TREE AS POSSIBLE. SIMPSON'S TO GET 350' AWAY) WILL  
USED VARIANCE. ADDITIONAL VOLUME WILL REQUIRE LONG TERM  
ROAD. SCREEN ALL ROCK PITS FROM VIEW. DON'T change road  
to cross. Cross River above the existing structure but preserve  
the possible access to land where possible. Additional

VCU 314 621, 622, 630, 635  
Units Accessed 634, 633, 631  
Map Index SITKA B4 SE

PHOTO INFO: YR 19 76 FLT LN 39A STEREO PR 276- 75  
1/4 QUAD ID: B4-5E



☒ ACCESS RDS

☒ SHORE LINES

☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7575

1/4 1/2 Miles  
Map scale 1:27097

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: will need to get access near  
variance, will need to determine our way to the ridge.  
Rock pits should be easy to come by. Screen all rock pits  
from view.

name: John date: 2/2/91  
TIMBER-LOGGING RESOURCE CONCERNS: Units 634 and 635 may need to be  
accessed in 3-5 years for hand sawing. Unit 631 may need to be accessed  
in 20-25 years for pre-commercial thinning. There is additional volume  
beyond unit 630 available for future logging  
name: Robert R. Zaborie date: 3/7/91

FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: Channel stability and water quality by Grinnell  
which maintain Chatham River. Channel stability is  
south side of the river, and Chatham is still in  
view. Inadequate debris by bridge and bridge and bridge  
name: South side of river date: 3/7/91  
SOILS: RESOURCE CONCERNS:

name: John date: 2/2/91  
WILDLIFE: RESOURCE CONCERNS: End of road is within the  
beach fringe and 330' of an active segment. Loss of high  
clear winter range within road corridor. Road crosses riparian - high bear  
value area. Long term access not desirable.  
name: John date: 8/10/92

RECREATION & RESOURCE CONCERNS:  
VISUAL:

Resource is a 300' buffer between road and 5 trees (Ceanothus). Potential  
brush would be removed. Road is a 5' wide strip. Bridge is on the road.  
name: John date: 9/21/92  
CULTURAL: RESOURCE CONCERNS: Chatham River date: 9/21/92

Don Research Group for Chatham River  
name: Don Research Group date: 2/2/91

Reviewed by:

title: John S. Barrett Research date: 2/2/91  
Interdisciplinary Team Leader

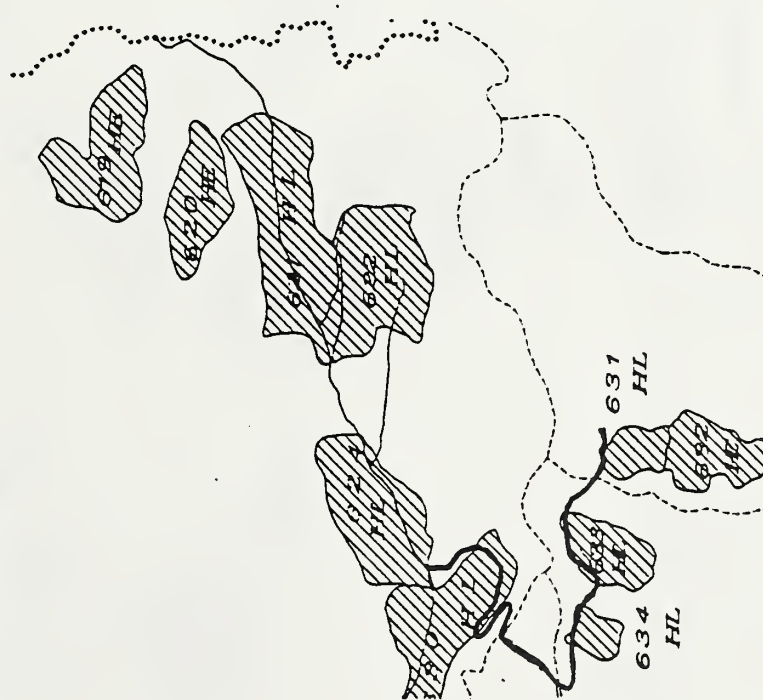


## ROAD SEGMENT # 75753

# SETH

STATEMENT OF INTENT BY IDT: FISHMEN, SOLE, AND APPALOCE  
NEED TO BE INVOLVED IN THE LOCATION AND DESIGN OF THIS  
120AD AND BRIDGES. TIMING OF BRIDGE CONSTRUCTION  
IN CLASS I STREAMS VARYING: ADDITIONAL VOLUME  
AVAILABLE FOR FISHMEN HARVEST. HAND PLANTING AND FISHING  
activities scheduled for the future.

VCU 3/4  
Units Accessed 630  
Map Index 517KA B4-5E  
74  
PHOTO INFO: YR 19 76 FLT LN 39 STEREO PR 276-75  
1/4 QUAD ID: B4-5E



- |                                     |                   |
|-------------------------------------|-------------------|
| <input checked="" type="checkbox"/> | ACCESS RDS        |
| <input checked="" type="checkbox"/> | SHORE LINES       |
| <input checked="" type="checkbox"/> | CLASS 1 & 2 STRMS |

0 1/4 1/2 Miles  
Map scale 1 27097

☒ ROAD NUM 75753

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

THE CLASS III STREAM ON THE EAST END OF UNIT 30, CLASS I STREAM CROSSING WILL BE AT EAST 60' LONG. THE TWO REMAINING FEEDPIES ARE ON CLASS II STREAMS AND ARE 308' SW AND 100' N. EAST OF THE 30' MICROS TO BE ON ONE ADDITIONAL FEEDPIES. CLASS II FEEDPIES ARE 10' N. OF THE 30' MICROS TO BE ON ONE ADDITIONAL FEEDPIES. CLASS III FEEDPIES ARE 10' N. OF THE 30' MICROS TO BE ON ONE ADDITIONAL FEEDPIES.

TIMBER-LOGGING RESOURCE CONCERNS: Unit 634 may need to be accessed in 3-5 years for harvest planning. Unit 631 may need to be accessed in 20-25 years for precommercial thinning. Helicopter volume from unit 632 should be lowland in unit 631. Additional volume available beyond unit 631 for name: Pauland R. Ziegler forest harvest date: 2/17/91

FISHERIES &	RESOURCE CONCERNS:
-------------	--------------------

HYDROLOGY:  $1^{st}$  in the acidity concn.

Steve &amp; Sandra's

name:

name:	date: 8-10-82
SOILS:	RESOURCE CONCNS: D. B. S. CONCNS

name: R. Havel-Hall

date: 2/13/91

**WILDLIFE:**

**WILDLIFE:** RESOURCE CONCERNS: Sparrows within Unit 630 and should not result in additional habitat loss.

name: Michael J. Weber

date: 8/10/90

## RECREATION &

**RESOURCE CONCERNS:**

**VISUAL:**

with copies. Your file with (underlined by paper) name is  
 forwarded to main office. CA's office has been read out to  
main office from 5-11-67 by main office date 5/11/67  
 name: \_\_\_\_\_

CULTURAL:	RESOURCE CONCERNS:
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For Research Design, see Probability, 399a

name: *Y. Lavant*

date: '8/24/90'

Reviewed by:

title:

*James S. Brann, Program Director*  
Interdisciplinary Team (leader)

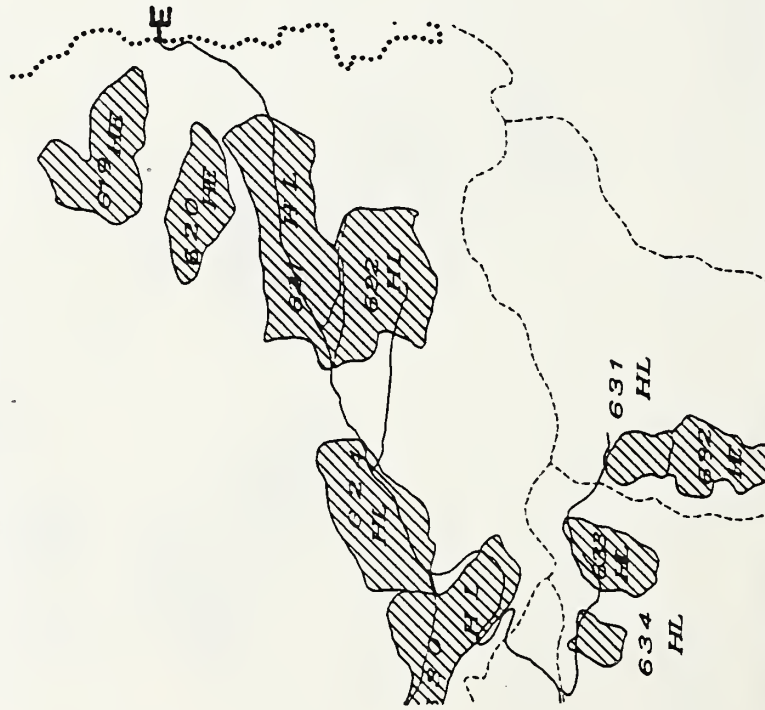
Interdisciplinary Team Leader

date: 2/20/91

CMA-1900-06

STATEMENT OF INTENT BY IDT: VISUALS HAS CONCERN WITH LTF. LOG RAFTING AREA IS USED AS ANCHORAGE, FULL LOG RAFTING ANCHORS WHEN LOGGING IS COMPLETED. OBTAIN EAGLE TREE VARIANCE, LANDSCAPE ARCHITECT TO BE INVOLVED IN DESIGN, generate a P value in this LTF sheet, after assessed visually.

VCU 314 Map Index SINKA 84-5E  
 Units Accessed ALL  
 PHOTO INFO: YR 19 76 FLT LN 40 STEREO PR 276-14  
 1/4 QUAD ID: B4-5E



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM LTF

1/4 1/2 Miles  
 Map scale 1:27097

ROAD MGT OBJ.  
 SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: A BULKHEAD WITH AN "H" FRAME THE FACILITY IS PLANNED. FLOAT CAMP MAY BE UTILIZED VERY LIMITED UPLAND AREAS TO OPERATE OUT OF.

name: Richard A. Zaltzoff date: 2/18/91  
 TIMBER-LOGGING RESOURCE CONCERNS: There is additional volume in this LTF sheet available for future logging.

name: Richard A. Zaltzoff date: 2/17/91  
 FISHERIES & RESOURCE CONCERNS:  
 HYDROLOGY: Fishing and maintenance facility will be upland-minimizing with growth by concern in S. Arm. A heavy.

name: Steve J. Paine date: 2/18/91  
 SOILS: RESOURCE CONCERNS:

name: Steve J. Paine date: 2/18/91  
 WILDLIFE: RESOURCE CONCERNS: Loss of high value deer winter range on upland development. Long term public access into the clear river ecosystem via this transportation system is undesirable.

name: Michael J. Teale date: 8/10/90  
 RECREATION & RESOURCE CONCERNS:  
 VISUAL:

name: Michael J. Teale date: 8/10/90  
 CULTURAL: RESOURCE CONCERNS:

name: Steve J. Paine date: 2/18/91  
 Reviewed by: Steve J. Paine

title: Interdisciplinary Team Leader date: 2/22/91  
 CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 7527 MILES

STATEMENT OF INTENT BY IDT: USE NATURAL LANDSCAPES TO SCREEN ROAD CUTS FROM VIEW IN THE BAY AND CHATHAM STRAIT. PROVIDE FOR MULTIPLE STREAM CROSSINGS IN UNIT 714. PROVIDE FOR LONG TERM ACCESS FOR FUTURE LOGGING.

VCU 315 709, 710, 711, 713  
Units Accessed 215, 732 Map Index SLIKR 133  
184-54/55  
PHOTO INFO: YR 1984 FLT LN 49 STEREO PR/84-131/132  
1/4 QUAD ID: B3-300



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7527

1/4 1/2 Miles  
Map scale 1:10000

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: THE FIRST THREE (3) MAJOR STREAM CROSSINGS WILL NEED BRIDGES, THE FOURTH WILL NEED A CURBENT STEEP X-SLOPES, IN UNIT 711 & 732. WILL NEED SHORT TEMP SPURS TO ROUGH LOGGING, SETBACKS, FUTURE NUMBER OF CROSS name: Daniel R. Beldor date: 2/8/91

TIMBER-LOGGING RESOURCE CONCERNS: Unit 710 may need to be accessed in 3-5 years for hand planing. Units 709, 710, 713, 715 may need to be accessed in 20-25 years for precommercial thinning. There is volume available beyond unit 709 for future logging. name: Daniel R. Beldor date: 2/16/91

FISHERIES & HYDROLOGY: RESOURCE CONCERNS: No problems concerns UG's B-4-90 Two major class III stream crossings (bridges). Water quality concern in receiving water (estuary) how to moderate. 4 critical crossings in mountainous terrain name: Steve J. Plante date: 8-9-90

SOILS: RESOURCE CONCERNS: Road crosses some steep slopes along the northern end.

name: Peter Weber date: 2/13/91  
WILDLIFE: RESOURCE CONCERNS: Loss of deer winter range within the road corridor. Long term access is not desirable

name: Michael J. Weber date: 8/9/90  
RECREATION & VISUAL: RESOURCE CONCERNS:

Road crosses 21st of Potential Rec Use area. Not to be developed. name: Steve J. Plante date: 8/15/90

CULTURAL: RESOURCE CONCERNS: No Research Design for Snowbirding since MBL name: Steve J. Plante date: 8/15/90

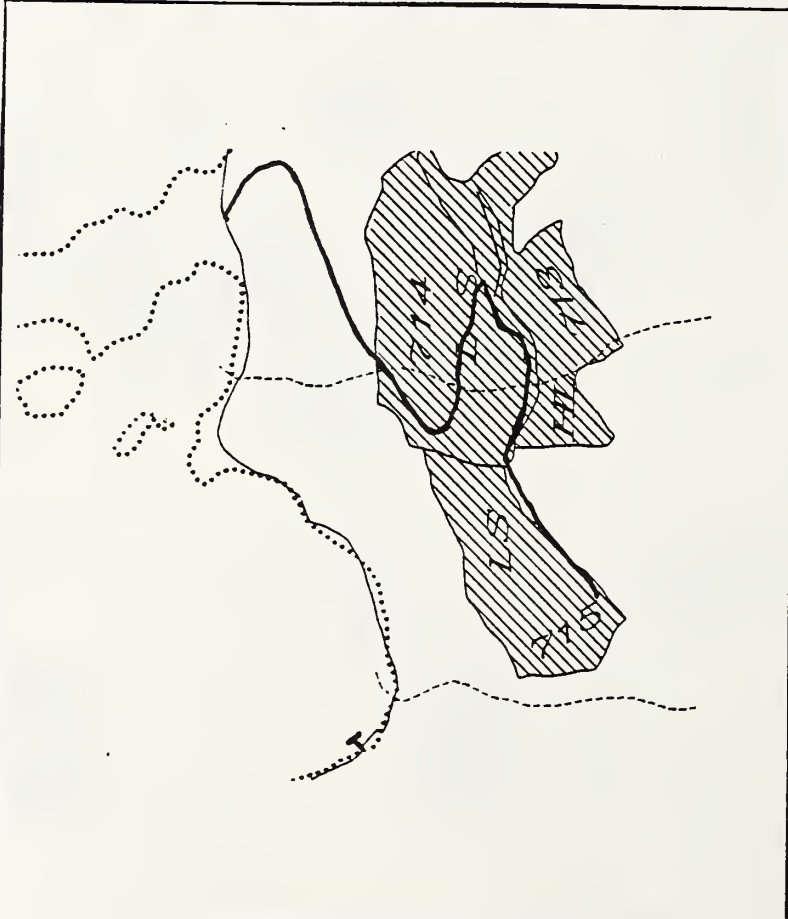
Reviewed by:

title: James S. Burns Bayardski  
Interdisciplinary Team Leader date: 2/27/91

CMA-1900-06

STATEMENT OF INTENT BY IDT: SOILS WOULD LIKE TO REVIEW ROAD SECTION IN FIELD REGARDING CANALS, HYDRAULIC UNIFORMITY, SIZING, MAKE SURE GULLIES ARE ADEQUATE TO PASS WATER WITHOUT CONCENTRATING OR ACCELERATING. NOT ABLE, DUE TO SOIL CONCERNS TO EXTEND ROAD ANY FURTHER.

VCU 315  
Units Accessed 713, 715 Map Index SUKIA B3-54  
PHOTO INFO: YR 1984 FLT LN 48C STEREO PR/84-54  
1/4 QUAD ID: 135-54



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS  
Map scale 1:16473  
1/4 1/2 MILES

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: FIRST HALF OF ROAD CROSSES WET AREA. MANY SMALL DEPRESSIONS. NO BRIDGES NEEDED. BECAUSE OF MULTIPLE DRAINAGES, SPEC. BUILD IS NEEDED TO CARRY CROSSLINGS.

name: 1/1/84 date: 2/8/91  
TIMBER-LOGGING RESOURCE CONCERNS: Units 713 and 715 may need to be accessed in 20-25 years for precommercial thinning

name: Richard R. Zuberke date: 2/6/91  
FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: No problems, concerns VGS 8-9-90

Band units across several stages of wetlands. Potential mass wasting / sediment delivery beyond the Basin estuary on site soils review recommended.

name: Steve P. Panton date: 8-9-82  
SOILS: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
WILDLIFE: RESOURCE CONCERNS: Loss of deer-winter range within road corridor. Long term access is not desirable.

name: Michael J. Weber date: 5/5/90  
RECREATION & RESOURCE CONCERNS:  
VISUAL:

Potential for. Occurred 2100' from road. Not doing damage from road. Some prime live non-moisture. Blackberry shrub. forest road. m. 1/1/84

name: \_\_\_\_\_ date: 2/15/90  
CULTURAL: RESOURCE CONCERNS:  
See Research Design for Accessibility area

Reviewed by: \_\_\_\_\_ date: 2/15/90  
Note need for arch. review during road location.

title: James S. Burns' Background date: 2/27/91  
Interdisciplinary Team Leader



ROAD SEGMENT #	MILES
7536	

STATEMENT OF INTENT BY IDT: HYDROLYSIS AND FISHBONES  
TO BE INVOLVED IN DETERMINATION OF SYRINAM  
CROSSING. FURTHER TESTS NEXT TO LIT SITE.

Value owners' satisfied for budgeting and procurement planning. Commercial volume available for future tender bases.

VCU	Units Accessed	Map Index
VCU	315	709 710 711 712
		713 714 715
		Map Index 517KA B3-5W

PHOTO INFO: YR 19 83-56 FLT LN 48c STEREO PR 84-55  
1/4 QUAD ID: 83-56



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

<input checked="" type="checkbox"/>	ROAD NUM	7536
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1/4 1/2 Miles

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS:	RESOURCE CONCERNS: RE CONSTRUCT BERNH FLINT ROAD. ON THE CLAY AND REVIEW WILL BE NEEDED AT CLASS II STADIUM NOTRE LITE TO DETERMINE IF A CORRECTION IS NECESSARY
--------	--

name: ~~11/11/11~~ date: 2/9/21

TIMBER-LOGGING RESOURCE CONCERNS: Unit 710 may need to be discussed in 3-5 years for broad planning. Units 709, 710, 713, 715 may need to be assessed in 20-25 years for piecemeal planning. There is additional volume available in unit 761 for three lessons. name: Patrick R Zatzman date: 2/1/91

FISHERIES &	RESOURCE CONCERNS:

HYDROLOGY: *Trichocereus*, *Conocarpus* - 6/25 8:45-9:00

S. from crossing V1731 near old LTF (class II).

Birds recommended due to best bird protection and possible need for first migration. LOW WEST DOVER 1984  
name: Steve Price  
date: 8-4-80

SOILS:	RESOURCE CONCERNS: No soils concerns
--------	--------------------------------------

name: R. H. Crockett

**WILDLIFE:**

WILDLIFE:	RESOURCE CONCERNS: This is an existing concern. No
-----------	--

Additional habitat losses anticipated. Long term access is undesirable.

name: Pichia

RECREATION &amp; RESOURCE CONCERNS:

**VISUAL:**

name: Plumline inc. - plumbeoid acorn  
 date: 8/1/99  
 Existing pic is 400' from potential loc.: Urencia  
 Net photo. Results: See below  
 Change to loc.: Plum 31, 90/01/31/90  
 Existing pic is 400' from potential loc.: Urencia  
 Net photo. Results: See below  
 Change to loc.: Plum 31, 90/01/31/90

**CULTURAL:**

See Research Design for Probability over

name:

Reviewed by:

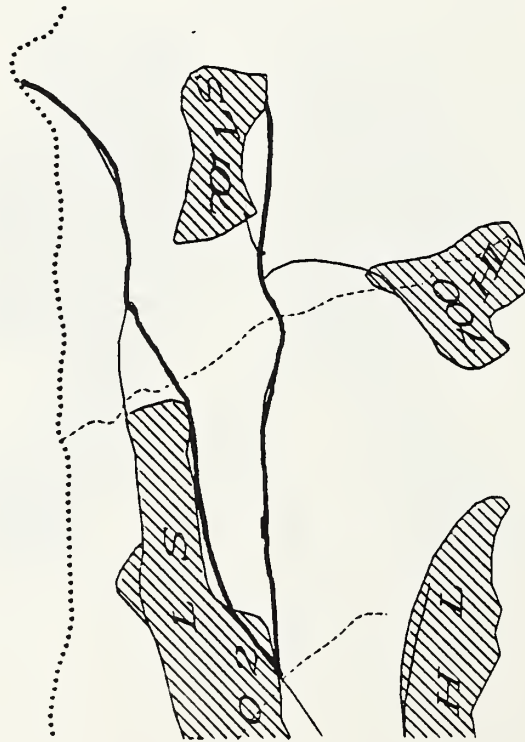
James S. Bond, Beaver Lake  
title: Interdisciplinary Team Leader

CMA-1900-06

ROAD SEGMENT # **7537**MILES **1.76**

STATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN CHATHAM STRAIT AND CASIMAS COVE. CLASS III STREAM CROSSING CAN USE CULVERTS.

VCU 315 Map Index SITKA A3NW  
 Units Accessed 200, 701, 702  
 PHOTO INFO: YR 1984 FLT LN 50 STEREO PR 184-171  
 1/4 QUAD ID: A3 NW



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM **7537**

1/4 1/2 Miles  
 Map scale 1:5203

ROAD MGT OBJ.  
 SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: NO CONCERNS

name: J. Lutz date: 2/19/91  
 TIMBER-LOGGING RESOURCE CONCERNS: There is some additional volume available for future harvest.

name: Richard R. Zdenko date: 2/16/91  
 FISHERIES & RESOURCE CONCERNS:  
 HYDROLOGY: No fisheries concerns UGSB-9-90  
NO WARM QUARRY CONCERNS 1/15/91 -DK

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: RESOURCE CONCERNS: No soils concerns.

name: R. Huebner date: 2/13/91  
 WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Deny access to vehicles after sale to mitigate impacts to bear, marten, subsistence. Portion of Rd. in beach fringe.

name: MT. Weber date: 2/6/91  
 RECREATION & RESOURCE CONCERNS:  
 VISUAL: ROAD OK AS DESIGNED IF SPURS ARE USED IN UNIT 701 TO MINIMIZE VISABLE ROAD PILING.

name: Changes to Place 30,072.01. Detachment to Ross, MBN date: 8/13/90  
 CULTURAL: RESOURCE CONCERNS:  
See Research Design for Provability Area WBL.

name: \_\_\_\_\_ date: 8/15/90  
 Reviewed by:

title: John S. Bruno, Bay Area date: 2/27/91  
Interdisciplinary Team Reader

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 75371 MILES 2.33

STATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS WHERE POSSIBLE TO SCREEN ROAD CUTS FROM VIEWS IN COSMOS CREEK. HYDROLOGY AND FISHWATERIES TO BE INVOLVED WITH LOCATION AND TYPE OF CROSSINGS ON CLASS II & III STREAMS.

ROAD MGT OBJ.  
SYNOPSIS

VCU 315  
Units Accessed 702, 703, 706, 707, 708 Map Index SITKA A3 NW  
PHOTO INFO: YR 19 84 FLT LN 419 STEREO PR 184-134  
1/4 QUAD ID: A3 NW



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS I & 2 STRMS

☒ ROAD NUM 75371

1/4 1/2 Miles  
 Map scale 1:10185

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: CROSSING OF CLASS II STREAM NEXT TO UNIT 707 MAY REQUIRE A BRIDGE FOR FISH PASSAGE. ROAD CONSTRUCTION MAY START EARLY NEXT YEAR BETWEEN UNIT 707 AND THE BEACH. THERE IS ADDITIONAL ROCK SOURCE IN AREA. THIS PARTIAL WOULD BE TEMP. TO UNIT name: *Unit 707* date: 2/8/91

TIMBER-LOGGING RESOURCE CONCERNS: UNIT 705, 107 may need to be accessed in 3-5 years for hand plantings. Unit 707 may need to be accessed in 20-25 years for precommercial thinning. There is additional volume available which could be logged in the future name: *Richard A. Zebner* date: 2/16/91

FISHERIES &amp; RESOURCE CONCERNS:

HYDROLOGY: High passage at Class I stream at edge of Unit 708 vgs 0.9-9.0. Fish passage at Class 2 stream (Common Cr.) vgs 0.1-9.0

name:

SOILS:

RESOURCE CONCERNS:

date:

name:

WILDLIFE:

RESOURCE CONCERNS:

date:

Portions of road in riparian, beach & estuary fringe. Vehicle access undesirable after timber sale.

name: *M. J. Truex*

date: 2/6/91

RECREATION &amp; RESOURCE CONCERNS:

VISUAL:

PA. CROSSING PERMITTING TRAILER, CHANGES TO BE. PLACE 31, 072. 01. NET CHANGING OF AGREEMENT TO COS. ENDLESS. MBS 170

name:

CULTURAL:

date:

See Research Design for Gravelly Area JAL.

name:

date: 2/15/90

Reviewed by:

title:

*James S. Brown, Bayfield*  
 Interdisciplinary Team Leader

date: 2/27/91

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 7571

MILES

STATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEWS IN KEOBAY. OBTAIN EMBLE THOSE VARIANCES ALONG BEACH FRINGE. INVOLVE HYDROLOGY AND FISHERIES IN DESIGN OF STREAM CROSSINGS.

VCU 21.5  
Units Accessed 719 720, 721 Map Index SITKA R3 SW  
PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-27  
1/4 QUAD ID: B3 SW



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7571

1/2  
1/2 Miles  
Map scale 1:7910

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: BEACH FRONT LAND WHICH WILL NEED TO BE PHYSICALLY BLASTED. FOR THE FIRST 0.30 MI. NOT ABLE TO COLLECT. ROAD 330' FROM EMBLE MOST TREE. WHICH NEED ENGINE THOSE VARIANCES TO BEING THIS ROAD. CROSSING OF CLASS III STREAM BEFORE TO UNIT 719. SHOULD BE GIVEN SIZED CULVERT. RECOMMENDATION FOR CULVERT. date: 2/8/91

TIMBER-LOGGING: RESOURCE CONCERNS: Unit 720 may need to be accessed in 20-24 years for commercial thinning. There is volume available between units 720 and 719 for possible future logging.

name: Peterson R. Zaborie date: 2/16/91

FISHERIES & RESOURCE CONCERNS: provide cultural resources on 7571 road before

HYDROLOGY: after 7571 by 5 & 9.40

Two major Class III stream crossings (bridges recommended)

Major concerns re receiving water quality in downstream

name: Edward J. Hinton date: 8-9-90

SOILS: RESOURCE CONCERNS: No soils concerns

name: R. Hinton date: 2/13/91

WILDLIFE: RESOURCE CONCERNS: Loss of deer winter range with

in the road corridor. First end of the road is in the beach fringe and

within 330' of an eagle tree. Long term access not desirable.

name: Michael J. Weber date: 8/9/90

RECREATION & RESOURCE CONCERNS:

VISUAL: Edna 3000' from potential Rec. area. 2000' is divided by road access barrier.

Not too far from Rec. area. no - private men - motorized access in Rec. area.

name: Chapman, Peter date: 8/12/90

CULTURAL: RESOURCE CONCERNS:

Doi Research Design for (Probably) Area with 2

name: Doi Research Design for (Probably) Area with 2

Reviewed by: Doi Research Design for (Probably) Area with 2

date: 8/12/90

title: James S. Bernard Bengtson

Interdisciplinary Team Leader

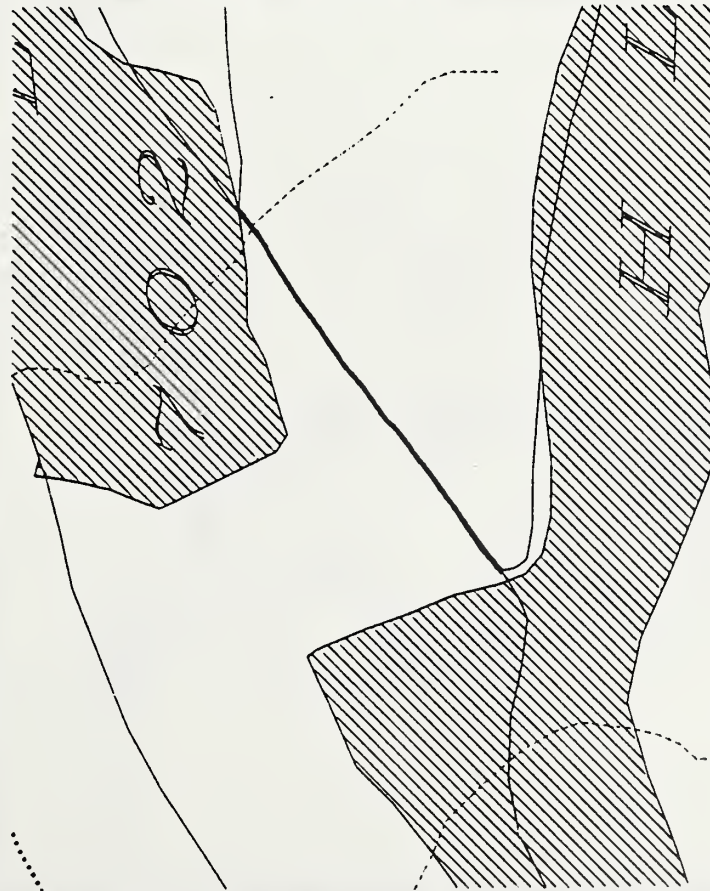
date: 2/27/91

CMA-1900-06



STATEMENT OF INTENT BY IDT: USE NATURAL LANDFORMS TO SCREEN ROAD CUTS FROM VIEW IN COSMOS RIVER. NO FISH CONCERNS ON CLASS II STREAM SO CULTURE WOULD BE ADEQUATE.

VCU 315  
Units Accessed 702, 703 Map Index SITKA A3-NW  
PHOTO INFO: YR 1984 FLT LN 49 STEREO PR 184-134  
1/4 QUAD ID: A3-NW



☒ ACCESS RDS

☒ SHORE LINES

☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7562

Map scale: 1:6487

ROAD MGT OBJ.  
SYNOPSIS

ROAD SEGMENT # 7562 MILES 0.26

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: CLASS II STREAM CROSSING WITH REQUIRED CULTURE. ROAD CROSSES THROUGH SMALL MUSKEGS, CATTLE IS 10-12% FEASIBLE.

name: J. Lopez date: 2/8/91  
TIMBER-LOGGING RESOURCE CONCERNS: Unit 703 may need to be assessed in 3-5 years for hand planning.

name: Richard R. Zdenko date: 2/6/91  
FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: No fisheries concerns UBS 8-9-90  
No water quality concerns DE 1/11/91.

name:  date:   
SOILS: RESOURCE CONCERNS: No soils concerns

name: R. Wheeler date: 2/13/91  
WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat. Vehicle access after sale undesirable because of impacts to bear & marten.

name: M.J. Weber date: 2/6/91  
RECREATION & RESOURCE CONCERNS:  
VISUAL:

Road 1000' from Pt. Barlowe Etc. Use Area. Change to the Pt. Barlowe 31,012.01. The area is lost from the area. Semi-primitive motor. yd. area.

name:  date: MSW 8/15/90

CULTURAL: RESOURCE CONCERNS:

See Demand Design for Availability area MSW

name:  date: 8/15/90

Reviewed by:

title: James S. Bernardi date: 2/27/91  
Interdisciplinary Team Leader

CNA-1900-06

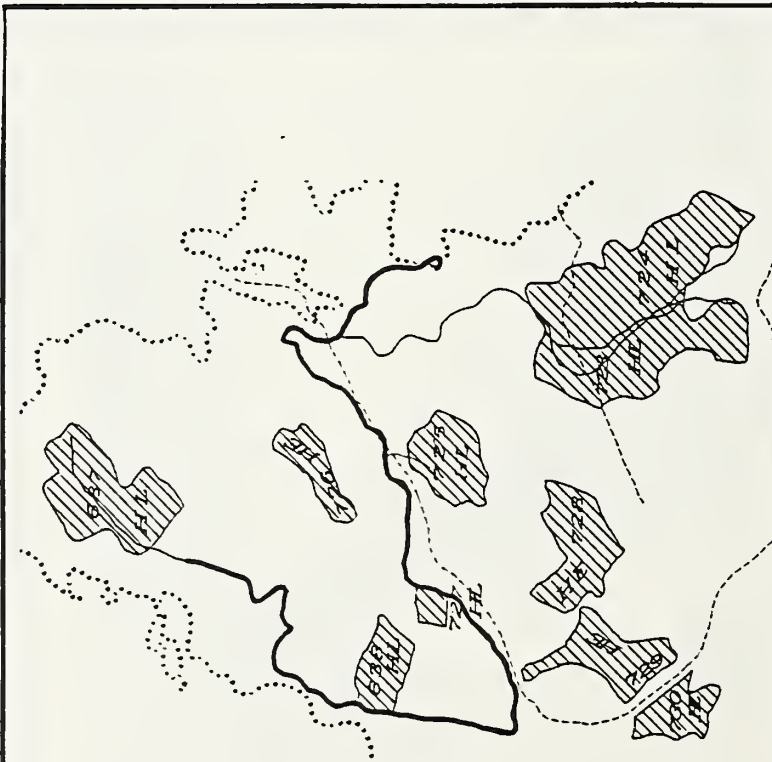
## ROAD DESIGN CARD

ROAD SEGMENT #	MILES
7597A	

ROAD SEGMENT #	MILES
7597A	

STATEMENT OF INTENT BY IDT: PROVIDE THE BRIDGE  
CROSSING CLASS 2 STREAM FOR SPANNING. SCHEDULE  
REQUIRE LITTLE OR LIKE TO USE ROAD AND PROVIDE FOR  
SAFETY OF SUBGRADE.

VCU 314-315 <sup>637, 638</sup>  
Units Accessed 723, 724, 725, 726  
227, 228, 229, 730  
Map Index SITKA B3-5W  
PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-25  
1/4 QUAD ID: B3-5W



<input checked="" type="checkbox"/>	ACCESS RDS	<input checked="" type="checkbox"/>	ROAD NUM	7597(R)
<input checked="" type="checkbox"/>	SHORE LINES			
<input checked="" type="checkbox"/>	CLASS 1 & 2 STRMS			

0 1/4 1/2 Miles  
Map scale 1:30921

Road Management Objectives are on file in Chatham SO.	
ROADS:	RESOURCE CONCERNS: CLASS I'S FARMING CLASS II'S WILL REQUIRE BURNING. THE ROAD IS OVER 75% GRADE-CONTROLLED AROUND LAKE AREA. WE HAVE TO REMOVE BEDROCK DRAIN TO REMOVE ROAD. THE LAST 0.71 MILES IS NOW CONSTRUCTION AND IS BUILDING THE ROAD SYSTEM (EAS. E.D. FINEST SECTION EVER name: <i>Redding</i> LOCATION HAS HIGH X-LEVEL. date: 2/6/91
TIMBER-LOGGING	RESOURCE CONCERNS: UNITS 637 639 725 726 729 730 may need to be accessed in 3-5 years for land planning. There is additional volume along this road system available for future harvest. name: <i>Richard R. Zolty</i> date: 2/6/91
FISHERIES & HYDROLOGY:	RESOURCE CONCERNS: 1) volume for fish passage in Class I & 2) stream 635 89-90

FISHERIES & HYDROLOGY:	RESOURCE CONCERNS: 1) trouble for fish passage in Class 1 & 2 2) stream is 8' x 4'
------------------------	--

name: Sithone & Buntan date: 8-9-18  
SOILS: ☒ RESOURCE CONCERNS: growing fairly steep slopes  
South of Unit 617 - otherwise no soils concerns.

name: R. Huerfano date: 2/13/91  
WILDLIFE: RESOURCE CONCERNS: This is an existing rangeland and no additional habitat loss anticipated. Long-term access is not desirable.

name: <u>Michael T. Weber</u>	date: <u>8/12/42</u>
RECREATION & VISUAL:	RESOURCE CONCERNS:

Change to Be Place 31,903.01.  
name:  
date: 8/15/90  
M. T. L. 200

CULTURAL:	RESOURCE CONCERNS:
San Ramon's Donkey for Sustainability award	WPA D.
name:	date: 3/15/70

Reviewed by:

James S. Burns Bureau  
Interdisciplinary Team Leader  
title: \_\_\_\_\_ date: 2/27/91

CMA-1900-06



## ROAD DESIGN CARD

ROAD SEGMENT # 7597 (N) MILES

STATEMENT OF INTENT BY IDT: USE NATURAL LANDSCAPE AS  
 A SCREEN AND OF ROAD FROM VIEW IN RETO  
 BAY. STEEP X-SLOPE AT BEGINNING NECESSITATES A  
 STEEP ROAD TO CENTRAL MASS. WINDING. ROAD ONLY HAS  
 ABOUT 12 IN. ONE TIME A WEEK.

VCU 314 Map Index \_\_\_\_\_  
 Units Accessed 637  
 PHOTO INFO: YR 1984 FLT LN 46 STEREO PR 284-85  
 1/4 QUAD ID: \_\_\_\_\_



- ☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

☒ ROAD NUM 7597 (N)

1/4 1/2 Miles  
 Map scale 1:10921

ROAD MGT OBJ.  
 SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: 0.11 miles of new  
 construction. ROAD ENDS AT THE LAST LANDING, NO  
 FURTHER ROADWAY ANTICIPATED. BECAUSE OF STEEP  
 X-SLOPE AT BEGINNING REQUIRES STEEP, ROAD.

name: Richard R. Zuber date: 2/4/91  
 TIMBER-LOGGING RESOURCE CONCERNS: Unit 637 may need to  
 be accessed in 3-5 years for hand planning.

name: Richard R. Zuber date: 2/8/91  
 FISHERIES & RESOURCE CONCERNS:  
 HYDROLOGY:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 SOILS: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
 WILDLIFE: RESOURCE CONCERNS: Loss of mastication high  
 value deer winter range. Road stays up out of the bench  
 fringe. Michael J. Weber  
 name: Michael J. Weber date: 8/10/90  
 RECREATION & RESOURCE CONCERNS:

VISUAL:

Changate Ec Place 31,903.01.

name: \_\_\_\_\_

CULTURAL: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_

Reviewed by:

title:

James S. Berman Discipline Leader  
 Interdisciplinary Team

date: 2/27/91

CMA-1900-06

## ROAD DESIGN CARD

ROAD SEGMENT # 75971 (N) MILES

STATEMENT OF INTENT BY IDT: USE NATURAL HANDFORMS TO SCREEN ROAD WITH VIEW IN BASIN AREA. ROAD ACCESSES FUTURE VOLUME SO CONVEY IN CLASS II STRIP. SHOULD BE OVERSIZED TO REDUCE HYDROLOGY CONCERNS.

VCU 315 Map Index SURFA B3-5W  
 Units Accessed 223, 724  
 PHOTO INFO: YR 1986 FLT LN 4/7 STEREO PR 884-26  
 1/4 QUAD ID: B3-5W



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

1/4 1/2 Miles  
 Map scale 1:10921

ROAD MGT OBJ.  
 SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
 ROADS: RESOURCE CONCERNS: FAVORABLE - 12% - 15% GULF. CLASS III CROSSING. WIDE PROBABLY BE A GULF. 1.43 MILES OF CONSTRUCTION. ONLY 100 MILES OF NEW CONSTRUCTION.

name: Richard R. Zelnick date: 2/8/91  
 TIMBER-LOGGING RESOURCE CONCERNS: There is some additional volume beyond units 733 and 724 for future logging.

name: Richard R. Zelnick date: 2/16/91  
 FISHERIES & RESOURCE CONCERNS:  
 HYDROLOGY: Hydrology Concern Low. ~~RECEIVED~~ Road crosses Class III channel. May require bridge depending on vehicle, bridge.

name: Steve P. Pappas date: 8-9-90  
 SOILS: RESOURCE CONCERNS:

name: Steve P. Pappas date: 8/9/90  
 WILDLIFE: RESOURCE CONCERNS: Loss of deer habitat range within corridor of new section of the road. Long term access not desirable.

name: Michael J. Tucker date: 8/9/90  
 RECREATION & RESOURCE CONCERNS:  
 VISUAL:

Rd. crosses 3000 ft. of Pot Rec. site. Not showing as range in Revised or some primitive Shoreline area.  
 name: Michael J. Tucker date: 8/15/90

CULTURAL: RESOURCE CONCERNS:  
Rd. (Pamela) Doughty for Shoreline area with 0.  
 name: Steve P. Pappas date: 2/15/90

Reviewed by:

title: James S. Bernal Pappas date: 2/29/91  
Interdisciplinary Team Leader

CMA-1900-06



ROAD SEGMENT #	MILES
75471(R)	

STATEMENT OF INTENT BY IDT:

Also covered, or related covered re-developing ~~road~~  
old section of Rt # 75776.

VCU 3157 Map Index Silk B3-5w  
Units Accessed 723, 724  
PHOTO INFO: YR 1988 FLT LN 47 STEREO PR 1884-35  
1/4 QUAD ID: \_\_\_\_\_



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS

<input checked="" type="checkbox"/>	ROAD	NUM
		75471(R)

0. 1/4 1/2 Miles  
Map scale 1:30921

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.	
ROADS:	RESOURCE CONCERNS:

<b>name:</b>	<b>date:</b>
<b>TIMBER-LOGGING</b>	<b>RESOURCE CONCERNS:</b>

name:	RESOURCE CONCERNS:	date:
FISHERIES & HYDROLOGY:		

name:	date:	
SOILS:	RESOURCE CONCERNS:	

name:	date:	
WILDLIFE:	RESOURCE CONCERNS:	

name:	RECREATION & VISUAL:	RESOURCE CONCERNS:	date:
-------	----------------------	--------------------	-------

name:	date:
CULTURAL:	RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed by: \_\_\_\_\_

title: Lewis S. Bernard, Esq.,  
Interdisciplinary Team Leader

date: 2/29/91

CMA-1900-06

## ROAD DESIGN CARD

LTF  
ROAD SEGMENT # NORTH BASIN MILES

STATEMENT OF INTENT BY IDI: CONSTRUCTION SLIP: TYPE LTF  
STORAGE OF FUEL TO BE ADJACENT TO ROCK PIT AREA.  
UTILIZE BOTH LAND BASED AND FLAT TYPE HOUSING  
TO REDUCE LAND IMPACTS.

VCU 223, 315, 314 Map Index SIXA B3-SW  
Units Accessed 223, 224, 637  
PHOTO INFO: YR 1976 FLT LN 42 STEREO PR/76-208  
1/4 QUAD ID: B3-SW



☒ ACCESS RDS  
☒ SHORE LINES  
☒ CLASS 1 & 2 STRMS  
☒ Log Transfer facility  
1/4 1/2 miles  
Map scale 1:10921

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.  
ROADS: RESOURCE CONCERNS: ROAD was needed to be  
EXTENDED ALONG NORTH SLIP TO PROVIDE FLAT  
CAMP AS PART OF LTF DESIGN. BY INCREASING ROAD  
USE, THIS SLIP THE FACILITY WILL HAVE EASY ACCESS.

name: J. Lutz date: 2/15/91  
TIMBER-LOGGING RESOURCE CONCERNS: There is additional volume  
in this LTF shed available for future harvest.

name: Richard R. Zabriskie date: 2/15/91  
FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY: In fisheries concerns UBS & 9-70

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
WILDLIFE: \_\_\_\_\_ RESOURCE CONCERNS: No concerns other than  
short term impact from logging camp.

name: Michael Ticebecker date: 8/7/90  
RECREATION & RESOURCE CONCERNS:  
VISUAL: \_\_\_\_\_

name: Michael Ticebecker date: 8/7/90  
CULTURAL: \_\_\_\_\_ RESOURCE CONCERNS: \_\_\_\_\_

name: \_\_\_\_\_ date: \_\_\_\_\_  
Reviewed by: \_\_\_\_\_

title: James S. Duncan & Associates date: 2/27/91  
Interdisciplinary Team Leader  
CMA-1900-06



## ROAD DESIGN CARD

LTF  
ROAD SEGMENT #SOUTH BASIN MILES

STATEMENT OF INTENT BY IDT: NO GROUND CAMP HERE. WILL BE WORKED OUT OF NORTH BASIN CAMP. REMOVE LOG RAFT ANCHORAGES WHEN LOGGING COMPLETE. MAKE SURE CULTURAL REGION IS DANGEROUS TO CONSTRUCTION. DETERMINE IF STRONGER NORTH LTF HAS FISH AND MOLLUSK APPROPRIATELY.

VCU 315

Units Accessed 700-706

Map Index

PHOTO INFO: YR 1990 FLT LN 50 STEREO PR 134-171/172  
1/4 QUAD ID:

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ Log Transfer facility☒ ROAD NUM

1/4 1/2 miles  
Map scale 1:16471

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: LOCATED NORTH LTF.RESOURCE CONCERNS: EMBLE NEST 1766

name:

date:

TIMBER-LOGGING: RESOURCE CONCERNS: There is additional volume available in this LTF shed for future logging.name: Richard R. Zelenkodate: 3/16/91

FISHERIES &amp; HYDROLOGY:

RESOURCE CONCERNS: type and disturbance and impacts to class 1 stream adjacent to LTF. Dye 8-7-90

name:

date:

SOILS: RESOURCE CONCERNS:

name:

date:

WILDLIFE: RESOURCE CONCERNS: Upland disturbance within the beach fringe habitat. Close proximity to an eagle nestname: Michael T. Tupperdate: 8/9/90

RECREATION &amp; VISUAL:

RESOURCE CONCERNS: LTF is 2000 ft from Potomac River. There are 100 ft of shoreline which are heavily eroded and are being eroded by the river. There are 100 ft of shoreline which are heavily eroded and are being eroded by the river. There are 100 ft of shoreline which are heavily eroded and are being eroded by the river.

CULTURAL:

RESOURCE CONCERNS:

name:

date:

Reviewed by:

title:

Interdisciplinary Team Leader

date: 3/24/91

CMA-1900-06

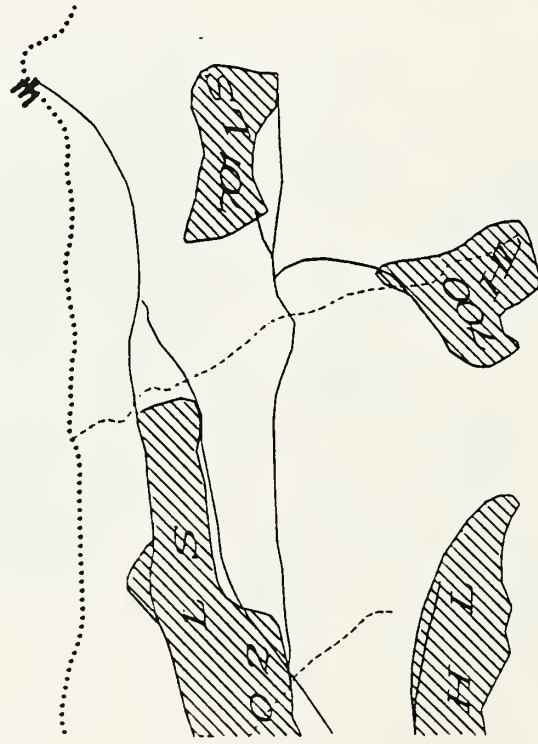
## ROAD DESIGN CARD

ROAD SEGMENT # C0511705 LTF MILES

STATEMENT OF INTENT BY IDT: MAINTAIN STRENGTH OF TREES TO THE EAST OF LTF 50 LTF UPLAND AREA IS NOT VISIBLE FROM CHATHAM STRAIT. KEEP SWAMPED AND HANGS TREES AREA TO A MINIMUM. TIE FLAT CAMPS A-10N SOUTH SIDE OF COVE. REMOVE ANY LOG RAFT RANCHES WHEN DONE LOGGING. Future need to reuse LTF identified.

VCU 315  
Units Accessed COSMOS COVE UNIT'S Map Index SITKA A3-NW

PHOTO INFO: YR 1990 FLT LN 50 STEREO PR 184-172  
1/4 QUAD ID: A3-NW

☒ ACCESS RDS☒ SHORE LINES☒ CLASS 1 & 2 STRMS☒ Log Transfer facility☒ ROAD NUM

1/1 1/2 miles  
Map scale 1:15703

ROAD MGT OBJ.  
SYNOPSIS

Road Management Objectives are on file in Chatham SO.

ROADS: RESOURCE CONCERNS: KEEP ROAD TO LTF OFF OF BEACH INTO LTF. MAINTAIN 330' SPACING FROM BRUSH TREES.

name: [Signature] date: 2/9/91  
TIMBER-LOGGING RESOURCE CONCERNS: There is additional volume in this LTF shed which could be harvested in the future.

name: Richard R. Zaborak date: 2/16/91  
FISHERIES & RESOURCE CONCERNS:  
HYDROLOGY:

name: \_\_\_\_\_ date: \_\_\_\_\_  
SOILS: RESOURCE CONCERNS:

name: \_\_\_\_\_ date: \_\_\_\_\_  
WILDLIFE: RESOURCE CONCERNS: Loss of wildlife habitat w/in beach fringe, subsistence use area. 2 eagle trees close by. Time operation to avoid disturbance of eagles.  
name: M.T. Weber date: 2/6/91

RECREATION & RESOURCE CONCERNS:  
VISUAL:

LTF would be at entrance of Cosmos Cove. There were no problems with recreation activities. Eagles are during the period of operation, most of eagles include on the site and area.

CULTURAL: RESOURCE CONCERNS:

Located in High Probability Area - NDE.

name:

date: 8/15/70

Reviewed by:

title:

Interdisciplinary Team Leader

date: 2/26/91

CMA-1900-06

James S. Bernard Bergman



# **Appendix F**

## **Threatened and Endangered Species Consultation**







United States  
Department of  
Agriculture

Forest  
Service

Region 10  
Tongass National Forest

Sitka Ranger District  
204 Sigina Way  
Sitka, Alaska 99835  
(907) 747-6671

Reply To: 2670

Date: February 15, 1990

Regional Director  
U.S. Fish And Wildlife Service  
1011 E. Tudor Rd.  
Anchorage, AK 99503

Dear Sir:

The Sitka Ranger District of the Tongass National Forest is preparing a DEIS for timber management in the Kelp Bay Project Area on Baranof and Catherine Islands. Harvest and roading activities are being planned on approximately 5,000 acres within a project area encompassing 153,291 acres. Timber sale activities will likely require four or five LTF's (Log Transfer Facilities). Potential LTF's are indicated on the enclosed map of the Project Area.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, we are conducting an assessment to determine if any effects on federally listed threatened, endangered or proposed species or critical habitats for those species may occur as a result of our activities. Based on our current knowledge, the American peregrine falcon (Falco peregrinus) is the only terrestrial species that might occur in the project area and then only as a migrant. Our preliminary assessment, based on earlier consultations with your agency, is that no effects would occur to the peregrine falcon as a result of the proposed project. We would appreciate any new information you have regarding the occurrence of, or effects on, the American peregrine falcon or other listed or proposed species in the Project Area.

Please contact Janis Burns-Buyarski, IDT Leader, or Mike Weber, IDT Wildlife Biologist, if you have any questions or require additional information for your response. They can be reached at 204 Sigina Way, Sitka, AK 99835 or by telephone at 747-6671.

Sincerely,

*William R. Lorenz*  
WILLIAM R. LORENZ  
Acting District Ranger

Enclosure

900201 1502 RED 2670 MW





United States  
Department of  
Agriculture

Forest  
Service

Region 10  
Tongass National Forest

Sitka Ranger District  
204 Siginaka Way  
Sitka, Alaska 99835  
(907) 747-6671

Reply To: 2670

Date: February 15, 1990

Director  
National Marine Fisheries Service  
U.S. Department of Commerce, NOAA  
P.O. Box 21668  
Juneau, AK 99802-1668

Dear Sir:

The Sitka Ranger District of the Tongass National Forest is preparing a DEIS for timber management in the Kelp Bay Project Area on Baranof and Catherine Islands. Harvest and roading activities are being planned on approximately 5,000 acres within a project area encompassing 153,291 acres. Timber sale activities will likely require four or five LTF's (Log Transfer Facilities). Potential LTF's are indicated on the enclosed map of the Project Area.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, we are conducting an assessment to determine if any effects on federally listed threatened, endangered or proposed species or critical habitats for those species may occur as a result of our activities. We have identified the occurrence of the humpbacked whale (Megaptera novaeangliae) in waters in the vicinity of the Project Area. We would appreciate any information you have regarding the occurrence of other listed or proposed species in the Project Area. Our preliminary assessment, based on earlier consultations with your agency, indicates that no effects would occur to the humpback whale or its habitat as a result of the proposed project. Your comments would be welcome.

Please contact Janis Burns-Buyarski, IDT Leader, or Mike Weber, IDT Wildlife Biologist, if you have any questions or require additional information for your response. They can be reached at 204 Siginaka Way, Sitka, AK 99835 or by telephone at 747-6671.

Sincerely,

*William R. Lorenz*  
WILLIAM R. LORENZ  
Acting District Ranger

Enclosure

900201 1502 RED 2670 MW







UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
P.O. Box 21668  
Juneau, Alaska 99802-1668

February 27, 1990

Mr. William R. Lorenz  
Acting District Ranger  
Sitka Ranger District  
204 Siginaka Way  
Sitka, Alaska 99835

RE: Endangered Species Act Section 7 Informal Consultation  
for Timber Harvest activities in the Kelp Bay area on  
Baranof and Catherine Islands.

Dear Mr. Lorenz:

This is in reply to your Section 7 request for information about threatened or endangered species under the National Marine Fisheries Service's (NMFS) responsibility that may be present in the vicinity of the subject project.

The NMFS bears responsibility for eight species of endangered whales which occur in Alaskan waters. The humpback whale is probably the only species that may occur near the project area. Humpback whales are known to use bays on both Peril and Chatham Strait as well as the Straits themselves.

There are no designated or proposed Critical Habitats near the project area. However, Frederick Sound is heavily used by humpback whales during summer and fall months. Some humpback whales reside in southeast Alaska waters all year.

Humpback whales have become entangled in cables, shrimp pot buoy lines, and gill net fishing gear in southeast Alaska during the past few years. Last May a humpback whale became entangled in abandoned steel cables at a former float camp site in Roosevelt Harbor on Zarembo Island. Biologist/divers from our agency have noted many abandoned cables incidental to dives near abandoned float camp sites, log transfer sites, and log rafting/storage areas.

The biological assessment should be written describing the proposed project, how the project may affect the endangered whales, and your determination of whether the project, taken in whole or parts, "may affect" or "will not affect" the endangered whales. The biological assessment may be done in association with the environmental impact statement which you are currently writing.



If the biological assessment concludes the project will not affect the humpback whales and we concur, then the USDA Forest Service's Section 7 responsibilities will have been fulfilled. If, however, it is found the project may affect endangered whales, then you would be obliged to initiate formal consultation with us, leading to our preparation of a biological opinion on the likelihood of jeopardy to the species.

Sincerely,

  
Steven Pennoyer  
Director, Alaska Region





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Juneau Fish and Wildlife Enhancement  
Southeast Alaska Ecological Services  
P. O. Box 021287  
Juneau, Alaska 99802-1287  
(907) 586-7240

IN REPLY REFER TO:

William R. Lorenz  
Tongass National Forest  
Sitka Ranger District  
204 Siginaka Way  
Sitka, Alaska 99835

March 3, 1990

Dear Mr. Lorenz:

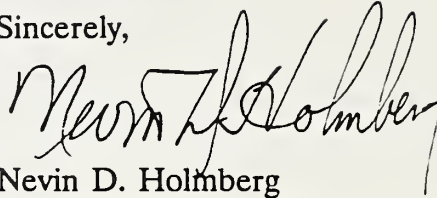
The U.S. Fish and Wildlife Service has reviewed your letter (2760) of February 15, 1990 regarding application of our concerns pursuant to Section 7 of the Endangered Species Act of 1973, and timber management activities in the Kelp Bay Project Area. You are correct in your comments that the American peregrine falcon, Falco peregrinus, may occur only as a migrant through the project area. As a migrant, this species is not likely to be adversely affected by log transfer facilities, timber harvest, or road building.

The marbled murrelet, Brachyramphus marmoratus, nests in the project area. Murrelets have been observed in almost every part of Kelp Bay, and particularly around the heads of South and Middle Arms, around Zubof Rocks in the Basin, and between Crow and Pond Islands. They were most often in water less than 50 fathoms deep and along steep, rocky, coastlines (Quinlon and Hughes 1984). This old-growth dependent species is not presently listed but may be in the future. For your information, there is a petition to list this species in California, Oregon and Washington, however, this action does not affect your proposed project.

These comments are offered for endangered and threatened species for which the U.S. Fish and Wildlife Service has responsibility under Section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq) and its amendments. The above comments are specific to the Endangered Species Act and do not reflect other agency concerns regarding other migratory birds, bald eagles, and anadromous fish resources.

We appreciate your efforts to coordinate with our office.

Sincerely,

A handwritten signature in black ink, appearing to read "Nevin D. Holmberg". The signature is fluid and cursive, with the first name "Nevin" and last name "Holmberg" clearly distinguishable.

Nevin D. Holmberg  
Field Supervisor

Quinlan, S.E. and J. Hughes. 1984. Study and biology of Marbled Murrelets in Southeast Alaska. unpub. Progress Report, Alaska Dept. of Fish and Game, 22pp.

cc: Bill Hughes  
Butch Young, ADF&G  
Jeff Hughes, ADF&G, Anch.





United States  
Department of  
Agriculture

Forest  
Service

Region 10  
Tongass National Forest  
Chatham Area

Sitka Ranger District  
204 Siginaka Way  
Sitka, Alaska 99835  
(907) 747-6671

Reply To: 2670

Date: March 12, 1990

Mr. Steven Pennoyer  
Director, Alaska Region  
National Marine Fisheries Service  
U.S. Department of Commerce, NOAA  
P.O. Box 21668  
Juneau, AK 99802-1668

Dear Mr. Pennoyer:

Thank you for your timely response to our request for information about threatened or endangered species in the vicinity of the Kelp Bay project area (your letter of 2/27/90).

We are planning to have a U.S. Fish and Wildlife Service diver assess our proposed log transfer facilities for bark accumulation and marine invertebrate populations. We will have him note abandoned steel cables also.

If you have specific information about humpback whales and marine debris, please send me a copy or reference citation for the biological assessment.

Do you have any published or unpublished guidelines for assessing whether logging operations may adversely affect whales?

We intend to make every effort within our ability and authority to insure that our logging operations do not adversely affect the humpback whale.

Sincerely,

*Hans von Repkowski*

For

WILLIAM R. LORENZ  
Acting District Ranger

cc:  
Kelp Bay Planning Record

900308 1349 RED 2670 MW





United States  
Department of  
Agriculture

Forest  
Service

Region 10  
Tongass National Forest

Chatham Area  
204 Siginka Way  
Sitka, Alaska 99835  
(907) 747-6671

Reply To: 2670

Date: June 18, 1990

Mr. Steven Pennoyer  
Director, Alaska Region  
National Marine Fisheries Service  
U.S. Department of Commerce, NOAA  
P.O. Box 21668  
Juneau, AK 99802-1668

Dear Mr. Pennoyer:

Since your letter of February 27, 1990, in response to our request for information under Section 7 of the Endangered Species Act, the Steller sea lion, Eumetopias jubatus, has been designated as threatened. Within the Kelp Bay project area on Baranof and Catherine Islands, our records indicate a sea lion rookery at the southern tip of Catherine Island.

Can you confirm from your information sources the existence of the rookery or any others in the Kelp Bay project area? Will identified haulouts or rookeries be designated or considered for Critical Habitat?

We will do a biological assessment on the Stellar sea lion as well as the humpback whale for the Kelp Bay project. We would appreciate some guidelines for assessing whether logging related operations may adversely affect whales or sea lions.

Sincerely,

JAMES FRANZEL  
District Ranger

cc:  
Kelp Bay Planning Record

900615 0853 RED 2670 MW







UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

June 29, 1990

Mr. James Franzel, District Ranger  
Chatham Area  
204 Siginaka Way  
Sitka, AK 99835

Dear Mr. Franzel:

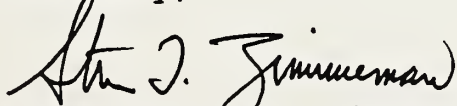
This is in reference to your June 18, 1990 letter regarding Section 7 Consultation for the Kelp Bay Timber Harvest Area.

Surveys conducted by the Alaska Department of Fish and Game indicate that Lull Point on the southern tip of Catherine Island is a Steller sea lion haulout, but not a rookery. Greatest use of this haulout by sea lions occurs primarily during winter months when about 100 animals have been consistently noted (D. Calkins, ADFG, pers. comm.). A few animals have also been observed at this site during summer surveys. Forrester Island is currently the major sea lion rookery within Southeast Alaska; some pupping also occurs on the Hazy Islands.

The 5 April 1990 Emergency Listing of Steller sea lions as a threatened species established a 3 nautical mile buffer zone around the principal sea lion rookeries west of 141 degrees W longitude. No specific provisions or restrictions for haulouts were included in that rule. NMFS has not as yet designated critical habitat for Steller sea lions pursuant to the Endangered Species Act. It is not possible at this time to predict the nature, location, or extent of critical habitat that may be designated. Designation of critical habitat will follow formal rulemaking procedures and thus will be open to agency and public comment.

We are not aware of any studies or literature regarding the effects of logging activities on humpback whales or sea lions. Your biological assessment should completely describe the proposed project and evaluate the potential effects of increased vessel traffic, human disturbance, and any aquatic habitat destruction that may affect sea lions, whales, ~~or their~~ prey species, e.g., herring. For further coordination please contact Susan Mello at 586-7235.

Sincerely,



Steven Pennoyer, Director  
Alaska Region







# **Appendix G**

## **Wildlife Habitat Capability Models**





## WILDLIFE HABITAT CAPABILITY MODELS

Habitat capability models are a management tool developed by biologists in Southeast Alaska to assist in the evaluation of effects of proposed land management activities on wildlife habitats and populations. A habitat capability model is a compilation of biological information that describes the habitat requirements of management indicator species (MIS). The objective of the models is to estimate the capability of habitats to support animal populations. The end result of each model is an estimation of a habitat suitability index (HSI) and associated population carrying capacity for each physical and biological condition on the National Forest. These models were developed by an interagency task force consisting of members from the Alaska Department of Fish and Game, The United States Fish and Wildlife Service, and the USDA Forest Service. The models were run on the Chatham Area GIS database to estimate wildlife habitat indices.

Authors of the specific computer macros written to calculate habitat suitability index (HSI) values using habitat information available in the geographic information system (GIS) are listed below.

## Sitka Black-tailed Deer - Winter Habitat

Suring, L., G. Degayner and R. Griffen. October 9, 1989.  
(Modified for Kelp Bay, June 4, 1990, by Scott Maki.)

## Brown Creeper - Winter Habitat

Suring, L., G. Degayner and R. Griffen. October 9, 1989.

## Hairy Woodpecker - Winter Habitat

Suring, L., G. Degayner and R. Griffen. October 9, 1989.

## Red-breasted Sapsucker - Breeding Habitat

Suring, L., G. Degayner and R. Griffen. October 9, 1989.

## Vancouver Canada Goose - Nesting and Brood Rearing Habitat

Falkner, T. December 5, 1990.

## Bald Eagle - Nesting Habitat

Suring, L., G. Degayner and R. Griffen. September 8, 1989.

## River Otter - Spring Habitat

Suring, L., G. Degayner and R. Griffen. August 10, 1989.

## Red Squirrel - Year Round Habitat

Suring, L., G. Degayner and R. Griffen. November 28, 1989.

## Mountain Goat - Winter Habitat

Suring, L., G. Degayner and R. Griffen. January 23, 1990.

## Brown Bear - Late Summer Habitat

Suring, L., G. Degayner and R. Griffen. January 23, 1990.

## Marten - Winter Habitat

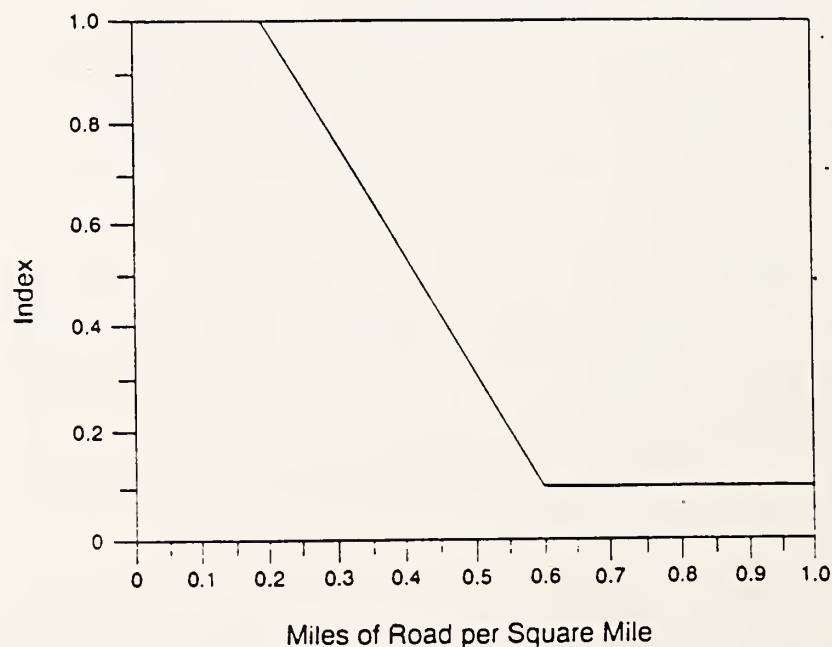
Suring, L., G. Degayner and R. Griffen. November 30, 1989

Table G-1 displays the variables used in each MIS habitat capability model. A description of each variable is provided in Table G-2.

The original authors of some of the habitat capability models included variables that were not incorporated into the GIS versions used for the Kelp Bay Project Area. The effects of patch size and disturbance were not included in the computer macros that were written because of the difficulty of applying these concepts to the GIS data base. The effects of patch size and disturbance are illustrated in the following tables and figures for the applicable MIS.

Figure G-1

**Hypothetical Effect of Road Density on the Capability of Habitats to Support Marten without Adequate Safeguards to Prevent Overharvesting**



Source: Suring et al. 1988



Table G-1  
Variables Used In the Wildlife Habitat Capability Models by Species

Species	SNOW	FTYPE	CNS	NFCN	FPROD	CT	VOLC	SSIZEC	ELEV-RNG	ASPECT	S/MJ	LAKEBUFF	FISH-HAB	ESTUARY	BEACH	'CLIFF
Sitka Black-tailed Deer	X	X	X		X		X	X	X	X		X				X
Mountain Goat		X		X	X	X	X	X	X	X						
Brown Bear			X	X	X	X		X	X							
Red Squirrel		X	X		X	X	X	X	X							
Otter		X	X		X			X	X			X				
Marten		X	X		X		X	X	X							
Brown Creeper		X					X	X	X							
Red-breasted Sapsucker		X			X		X	X	X							
Hairy Woodpecker		X					X	X	X							
Vancouver Canada Goose							X	X	X		X					
Bald Eagle		X			X		X	X	X			X		X		X

Kelp Bay Planning Record.

Source:

Table G-2

## Description of Habitat Capability Model Variables

ITEM	DESCRIPTION	VALID CODES	CODE DESCRIPTION	GIS DATA LAYER SOURCE
SMU	Soil Mapping unit	6 places	see data dictionary	CLU
SSIZEC	Timber Size Class	1	Seedling or Saplings; under 5" DBH	TIMTYP
		2	Poletimber; DBH 5" to 9"	
		3	Young-growth Sawtimber; 9"+ but LT 150 Yrs	
		4	Oldgrowth Sawtimber; 9"+ and over 150 yrs	
		' '	Nonforested lands	
RIP-SOIL	Riparian Soil	0	Not a riparian/Mass Move. polygon	RIPARIAN
		5	Chantyp not available	
		7	Riparian soil polgon	1.1.I
		8	Mass Movement polygon	
ASPECT <sup>2</sup>	Aspect	1	46 - 135 degrees	ASPECT
		2	136 - 225 degrees	
(Aspect-Code)		3	226 - 315 degrees	4.5.B
		4	0 - 45 degrees	
		4	316 - 360 degrees	
		5	unknown	
		0	flat	
BEACH	Beach 500 ft buffer	0	Not within 500 ft buffer	BEACH
		1	Within 500 ft buffer	1.1.I
ELEV-RNG	Polygon Elevation	1	0-500 ft.	ELEVATION
		2	501-800	
		3	801-1200	4.5.B
		4	1201-1500	MODIFIED FOR TLMP TO 1.1.I
		5	1501-2000	
		6	2001-5000	
VOLC	Timber Volume Class	3	0 to 8 MBF/acre	TIMTYP
		4	8 to 20 MBF/acres	
		5	20 to 30 MBF/acre	1.1.C
		6	30 to 50 MBF/acre	
		7	Greater than 50 MBF/acre	
		' '	0 to 8 MBF/acre	
FISH-IAB	Redefine of Riparian Attributes		INTER	RIPARIAN
	In this order, each a 1.1.I		AHMU-CLASS	
			RIP-SOIL	1.1.I
			SOIL-AHMU	
		5555	Not surveyed	



Table G-2 (Continued)

## Description of Habitat Capability Model Variables

ITEM	DESCRIPTION	VALID CODES	CODE DESCRIPTION	GIS DATA LAYER SOURCE
NFCOM	Nonforest Condition Class	A	Alder Brush	TIMTYP
		B	Brush, other than Alder	
		C	Census Freshwater	1.1.C
		D	Sand Dunes	
		F	River Fill	
		G	Natrual Grassland	
		H	Alpine	
		I	Ice/Snow field	
		L	Uplifted Beach	
		M	Muskeg Meadow	
		N	Noncenseus Freshwater	
		O	Other	
		P	Borrow Pit	
		R	Rock	
		S	Slide Zone	
		T	Willow	
		U	Urban	
		W	Mass Wasting	
		X	Salt Water	
			Not Nonforested	
FPROD	Forest Productivity	2	Productivity GT 20 CU FT/acre	TIMTYP
		A	Low Productivity Due to Alder	1.1.C
		G	Low Productivity Due to Glacier	
		H	Low Productivity Due to High Elevation	
		L	Low Productivity Due to Low Site Index	
		M	Low Productivity Due to Muskeg	
		R	Low Productivity Due to Rock Cover	
		S	Low Productivity in Recurrent Slide Zone	
		T	Low Productivity Due to Willow	
FTYPE	Forest Type	A	Red Alder	TIMTYP
		B	Birch	1.1.C
		C	Cedar	
		H	Hemlock	
		L	Lodgepole	
		M	Black Spruce	
		P	Black Cotton Wood	
		Q	Aspen	
		S	Spruce	
		W	White Spruce	
		X	Hemlock-spruce	

Table G-2 (Continued)

## Description of Habitat Capability Model Variables

ITEM	DESCRIPTION	VALID CODES	CODE DESCRIPTION	GIS DATA LAYER SOURCE
INTER	Riparian Intersection	0	not an intersection	RIPARIAN
		1	intersection of stream buffer and riparian soils polygon.	1.1.1
LAKE-BUFFER		0	Not in lake buffer	
		1	Within <=5 acres buffer	
		2	Within 6 to 50 acre buffer	
		3	Within >50 acre buffer	
		4	Within <=5 acres lake	
		5	Within 6 to 50 acre lake	
		6	Within >50 acre lake	
		8	Area not inventoried	
ESTUARY	Land adjacent to Estuary	0	Not Esturaine	ESTURAINED
		1	Esturaine	
		8	CLU layer not available	
				1.1.1
CNS	Current Nonstocked Condition	A	Nonstocked Due To Alder	
		F	Nonstocked Due To Fire	
		G	Nonstocked Due To Water Or Glacier Action	
		I	Nonstocked Due To Insects	
		N	Nonstocked Due To Logging GTR-OR-EQ 5 Yrs	
		O	Nonstocked Due To Other Causes	
		P	Planned For Harvest By June 1988.	
		R	Nonstocked Due To Riverfill	
		S	Nonstocked Due To Slides	
		T	Nonstocked Due To Willow	
		U	Nonstocked Due To Beach Uplifting	
		W	Nonstocked Due To Windthrow	
		X	Nonstocked Due To Logging Less Than 5 Years	
CT	Forest Cover-Type	F	Forest Cover Type	
		N	Nonforest Cover Type	
		O	GT 40 Acre Polygon Inserted By INSERTSHORE	
SOIL-AHMu	AHMu Class For Riparian Soils.	0	Neither AHMu class 1 or 2	RIPARIAN
		1	AHMu 1	
		2	AHMu Class 2 or 3	1.1.1
		5	Chantyp not available	
AHMu-CLASS	Aquatic Habitat Managment Unit Class (within buffer)	0	Not within an AHMu class	RIPARIAN
		1	Within AHMu class 1	
		2	Within AHMu class 2 or 3	1.1.1
		5	Channel Type not available	



Table G-2 (Continued)

## Description of Habitat Capability Model Variables

ITEM	DESCRIPTION	VALID CODES	CODE DESCRIPTION	GIS DATA LAYER SOURCE
CLIFF	Area within cliff buffers	0 (0) <sup>3</sup>	Not Within Cliff Buffer	CLIFF
		8 (1)	tile not buffered	
		13 (3)	Within the 1300' buffer	2.2.I
		26 (6)	Within the 2600' buffer	
SNOW	Snow Depth Rating	1	mild	1.1.I
		2	moderate	
		3	deep	
		4	very deep	

Table G-3

## Effects of Development and Human Activity on the Habitat Capability for Brown Bear in Southeast Alaska

Type of Development or Activity	Habitat Capability Reduction (in percent) within Two Influence Zones	
	less than one mile	one to five miles
<i>Communities:</i>		
Greater than 1,000 people	100	70
501-1,000 people	100	50
11-500 people	70	40
Less than 10 people	50	20
Landfill - no effective incineration	100	50
F. S. Cabin/Developed Campground	20	0
Permanent Camp Site	80	50
Temporary Camp Site	50	20
Access Point (airstrip, dock, floatplane lake)	20	0
Mainline Roads with Ferry Access or Towns	60	30
Secondary Roads with Vehicle Access	40	10
Roads Closed Administratively	20	0
Roads Closed Permanently	10	0

Source: Schoen et al. 1989.

Table G-4

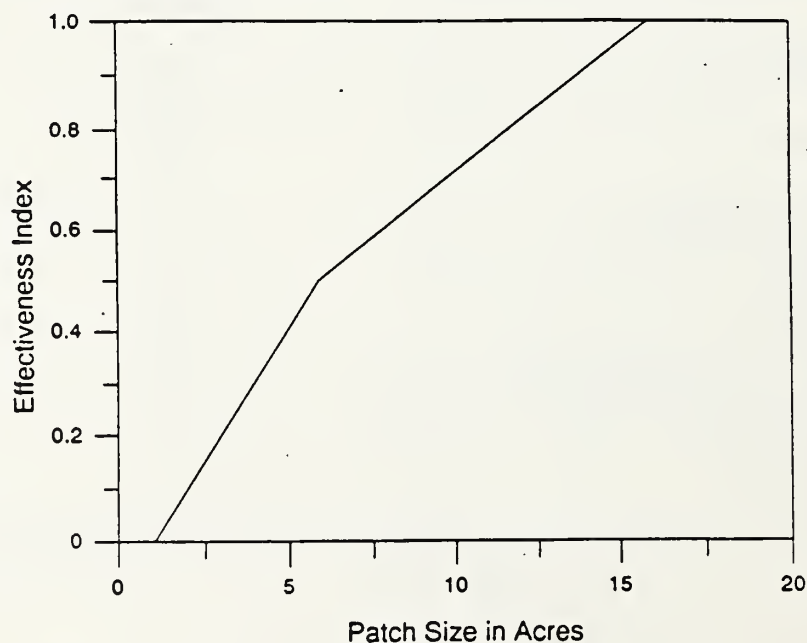
# Effects of Disturbance on the Habitat Capability for Mountain Goats in Southeast Alaska

<i>Type of Human Access or Development</i>	<i>Habitat Capability Reduction (in percent)</i>
FS Cabin/Developed Campground/Seasonal Camp within one mile of occupied habitat	10
Permanent Camp Site/Residence/Float Camp within one mile of occupied habitat	40
one to five miles from occupied habitat	10
Access Point (airstrip, dock, floatplane lake) within one mile of occupied habitat	10
Road Accessible to Vehicles within two miles of occupied habitat	20
Transportation Link (ferry access/town) within two miles of occupied habitat	40
Trails or Road Access Limited to Hiking within two miles of occupied habitat	10

Source: Suring et al. 1988

Figure G-2

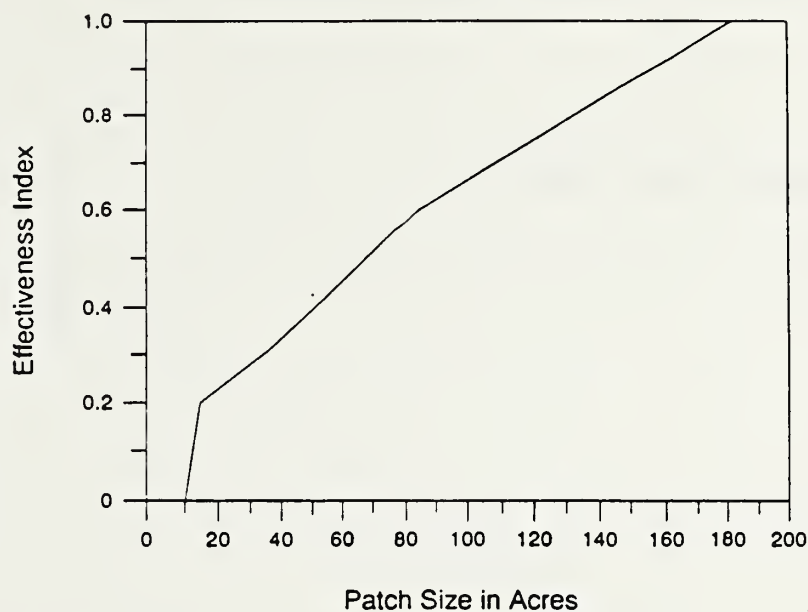
## Effect of Patch Size on the Suitability and Capability of Habitats to Support Brown Creepers



Source: Suring et al. 1988

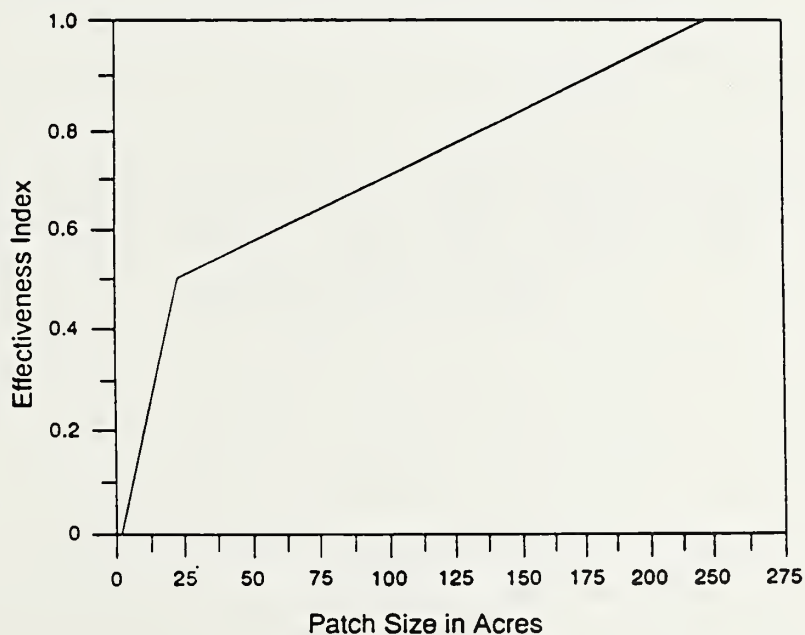


Figure G-3  
**Effect of Patch Size on the Suitability and Capability of Habitats to Support Marten**



Source: Suring et al. 1988

Figure G-4  
**Effect of Patch Size on the Suitability and Capability of Habitats to Support Red-Breasted Sapsuckers**



Source: Suring et al. 1988

Figure G-5  
Effect of Patch Size on Deer Habitat

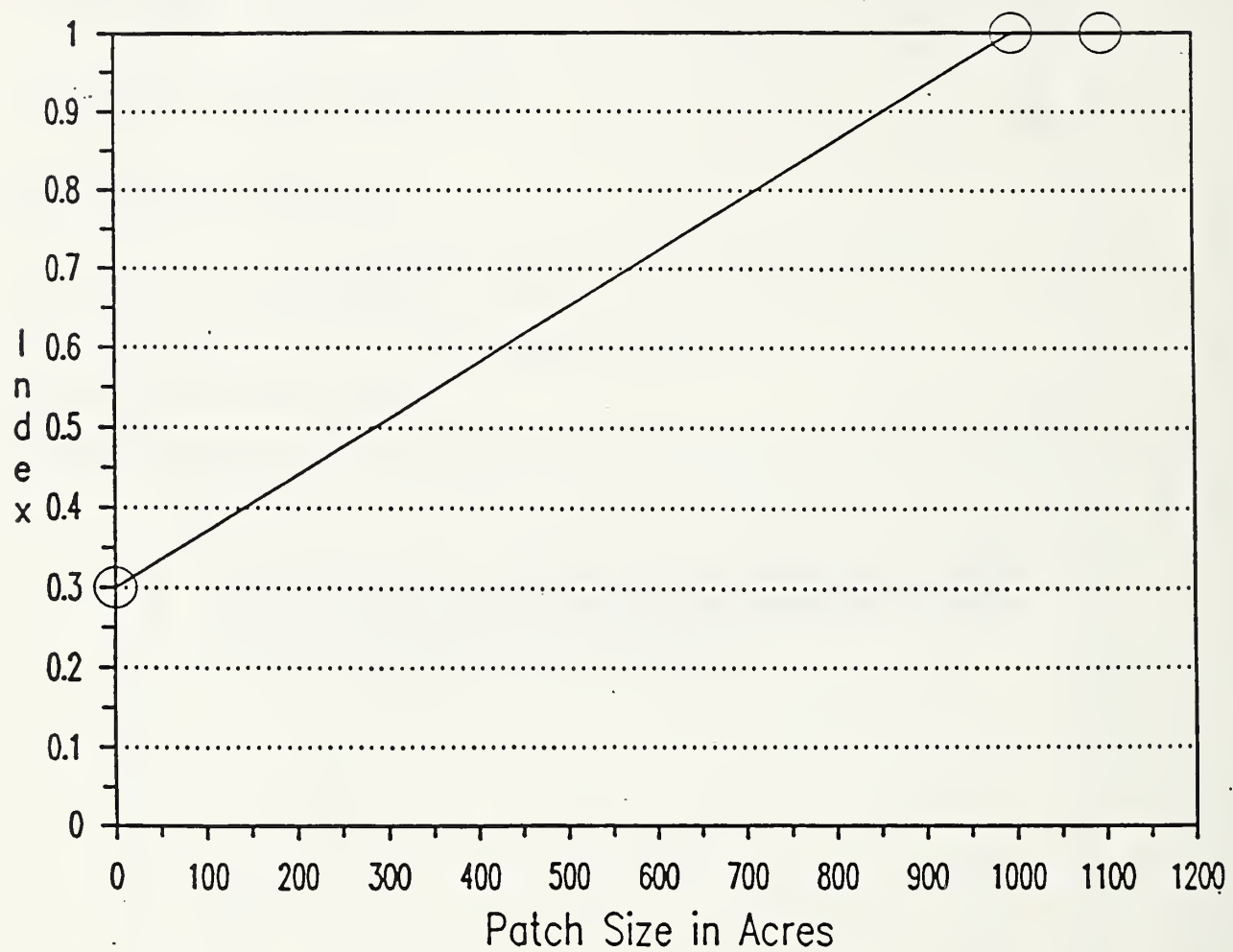
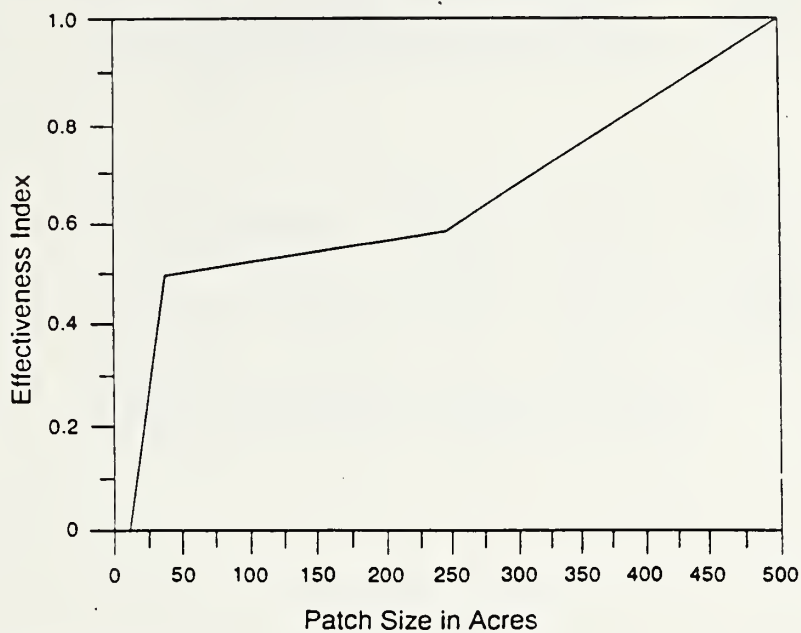




Figure G-7  
**Effect of Patch Size on the Suitability and Capability of Habitats to Support Hairy Woodpeckers**



Source: Suring et al. 1988

Figure G-6  
**Estimated Effect of Patch Size on the Suitability and Capability of Habitats to Support Red Squirrels**



Source: Suring et al. 1988





# **Appendix H**

## **Timber Harvest Units and Roads Specific to the Alternatives**





APPENDIX H - UNITS AND ROADS SPECIFIC TO THE ALTERNATIVES

TABLE H-1: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 2

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
293	103	412	17	0	0	0	17
	105	816	0	33	0	0	33
	109	1336	64	0	0	0	64
	124	527	0	0	0	26	26
	125	445	20	0	0	0	20
	126	648	32	0	0	0	32
	127	264	13	0	0	0	13
	128*	635	0	28	0	0	28
	129	1343	0	0	0	63	63
	131	1160	0	0	0	36	36
	132	291	0	13	0	0	13
	134	831	0	0	0	33	33
	138	891	44	0	0	0	44
	139	587	0	29	0	0	29
	140	223	0	11	0	0	11
	141	142	0	7	0	0	7
	143	629	0	31	0	0	31
	144	325	0	16	0	0	16
	150	1155	47	0	0	0	47
	151	386	0	19	0	0	19
153	1618	0	62	0	0	62	
154	702	28	0	0	0	28	
157	486	24	0	0	0	24	
158	447	0	22	0	0	22	
VCU Total		16,299	289	271	0	158	718

TABLE H-1: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 2 (Con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
294	200	876	28	0	0	0	28
	201	756	0	28	0	0	28
	202	913	0	0	0	45	45
	203	1537	0	46	0	0	46
	206	689	34	0	0	0	34
	208	2057	0	67	0	0	67
	209*	297	0	0	10	0	10
	210	1813	0	55	0	0	55
	213	3736	0	122	0	0	122
	227	891	32	0	0	0	32
	228	1896	0	83	0	0	83
	231	629	31	0	0	0	31
	232	932	46	0	0	0	46
	234	690	0	0	0	34	34
	235*	627	0	0	23	0	23
	237	973	0	0	27	0	27
	240	351	0	0	12	0	12
	241	695	0	0	27	0	27
	242	914	0	0	26	0	26
	244	3691	0	0	115	0	115
	247	1274	39	0	0	0	39
	249	365	16	0	0	0	16
VCU Total		26,602	226	401	240	79	946
296	301	1590	0	46	0	0	46
	302	4387	0	0	0	152	152
	307	1706	50	0	0	0	50
	310	2142	58	0	0	0	58
	323	566	0	18	0	0	18
	324	1239	0	35	0	0	35
	327	2595	0	0	77	0	77
	328	1516	0	42	0	0	42
	330	2145	0	0	82	0	82
	331	1409	47	0	0	0	47
	332	418	0	0	0	16	16
	333	310	0	0	0	14	14
	340	816	0	35	0	0	35
	341	1982	0	64	0	0	64
	345	829	37	0	0	0	37
	347	1568	0	0	0	70	70
	349	2039	0	0	0	91	91
	350	2139	0	0	66	0	66
	351	2439	0	0	82	0	82
	352*	545	0	0	14	0	14
	353	1244	0	0	34	0	34
	354	750	0	0	37	0	37
	360	438	0	13	0	0	13
VCU Total		34,812	192	253	392	343	1,180



TABLE H-1: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 2 (Con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
297	401	628	31	0	0	0	31
	402	1220	49	0	0	0	49
	403	769	0	32	0	0	32
	408	728	0	24	0	0	24
	419	1172	38	0	0	0	38
	421	1255	0	54	0	0	54
	422*	398	0	17	0	0	17
	425	1307	0	0	0	44	44
	426	1429	0	0	0	50	50
	427*	478	0	17	0	0	17
	429	600	0	25	0	0	25
	431	418	14	0	0	0	14
	432*	284	0	14	0	0	14
	437	755	28	0	0	0	28
	439	1377	68	0	0	0	68
	440	1843	91	0	0	0	91
	441	1836	88	0	0	0	88
	442	1134	56	0	0	0	56
	443	822	32	0	0	0	32
	445	952	0	0	0	47	47
449	661	0	30	0	0	30	
VCU Totals		20,066	495	213	0	141	849
298	500	1482	52	0	0	0	52
	503	385	0	19	0	0	19
	504*	452	0	0	17	0	17
	506	2396	0	0	111	0	111
	507	810	0	0	40	0	40
	508*	163	0	5	0	0	5
	509	882	29	0	0	0	29
	511	1116	34	0	0	0	34
	517	1570	0	0	57	0	57
	518	329	13	0	0	0	13
	519	1160	0	0	50	0	50
	520	135	6	0	0	0	6
	521	689	0	0	34	0	34
	522	3101	0	0	122	0	122
	523	608	30	0	0	0	30
	524	1203	0	0	32	0	32
	525	571	11	0	0	0	11
	526	1073	0	0	27	0	27
	527	849	0	0	15	0	15
	534*	574	0	0	15	0	15
535	1970	0	0	86	0	86	
VCU Totals		21,518	175	24	606	0	805

TABLE H-1: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 2 (Con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
314	637	1335	0	0	48	0	48
	639	694	0	0	25	0	25
VCU Totals		2,029	0	0	73	0	73
315	700	324	0	0	0	16	16
	701	404	0	14	0	0	14
	702	1045	0	41	0	0	41
	703	1807	0	0	0	68	68
	706	1495	46	0	0	0	46
	707	1673	53	0	0	0	53
	710	539	0	20	0	0	20
	711*	202	0	6	0	0	6
	714	1422	0	53	0	0	53
	719	263	13	0	0	0	13
	721	640	19	0	0	0	19
	724	1673	0	0	76	0	76
	726	505	0	0	15	0	15
	728	1078	0	0	32	0	32
	729	978	0	0	27	0	27
	730	579	0	0	16	0	16
	732*	256	0	8	0	0	8
VCU Totals		14,883	131	142	166	84	523
Sawlog MBF = 107,605							
Utility MBF = 28,604							
Total all VCU's=136,209			1,508	1,304	1,477	805	5,094
Percent/Logging Method			30%	25%	29%	16%	

Source: Kelp Bay Planning Record, Timber Effects Report

\* Denotes Partial Harvest Unit



TABLE H-2: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 3

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
293	103	412	17	0	0	0	17
	104	1470	0	46	0	0	46
	105	816	0	33	0	0	33
	106	1437	0	61	0	0	61
	107	1280	0	46	0	0	46
	109	1336	64	0	0	0	64
	111	284	14	0	0	0	14
	112	351	0	16	0	0	16
	113	1915	0	74	0	0	74
	114	4010	119	0	0	0	119
	116	1270	52	0	0	0	52
	117	487	24	0	0	0	24
	122	567	0	28	0	0	28
	123	122	6	0	0	0	6
	124	527	0	0	0	26	26
	125	445	20	0	0	0	20
	126	648	32	0	0	0	32
	127	264	13	0	0	0	13
	128*	1095	0	48	0	0	48
	129	1343	0	0	0	63	63
	131	1160	0	0	0	36	36
	132	291	0	13	0	0	13
	133	648	32	0	0	0	32
	137	648	0	32	0	0	32
	139	587	0	29	0	0	29
	140	223	0	11	0	0	11
	141	142	0	7	0	0	7
	143	629	0	31	0	0	31
	144	325	0	16	0	0	16
	145	668	0	33	0	0	33
	149	581	22	0	0	0	22
	150	1155	47	0	0	0	47
	151	386	0	19	0	0	19
	153	1618	0	62	0	0	62
154	702	28	0	0	0	28	
155	932	0	46	0	0	46	
157	486	24	0	0	0	24	
158*	81	0	4	0	0	4	
VCU Total		31,341	514	655	0	125	1,294

TABLE H-2: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 3 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
294	200	876	28	0	0	0	28
	201	756	0	28	0	0	28
	202	913	0	0	0	45	45
	203	1537	0	46	0	0	46
	204	2416	0	108	0	0	108
	205	1687	0	62	0	0	62
	206	689	34	0	0	0	34
	207	1795	0	0	0	64	64
	208	2057	0	67	0	0	67
	210	1813	0	55	0	0	55
	211	404	12	0	0	0	12
	213	3736	0	122	0	0	122
	215	2064	0	68	0	0	68
	216	459	0	0	0	16	16
	221	3114	0	0	114	0	114
	222*	371	0	0	13	0	13
	223	3178	0	0	146	0	146
	225	892	38	0	0	0	38
	226	2764	86	0	0	0	86
	228	1896	0	83	0	0	83
	230	1248	0	39	0	0	39
	231	629	31	0	0	0	31
	233	674	22	0	0	0	22
	234	690	0	0	0	34	34
	235	3175	0	0	118	0	118
	237	973	0	0	27	0	27
	238	539	16	0	0	0	16
	239	546	0	0	17	0	17
	240	351	0	0	12	0	12
	241	696	0	0	27	0	27
	242	914	0	0	26	0	26
	244	3694	0	0	115	0	115
	246	979	37	0	0	0	37
	247	1274	39	0	0	0	39
	248	940	0	0	0	41	41
	249	365	16	0	0	0	16
VCU Total		51,104	359	678	615	200	1,852



TABLE H-2: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 3 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
296	315	1069	0	33	0	0	33
	317	768	0	24	0	0	24
	320	1187	0	35	0	0	35
	321	1280	0	38	0	0	38
	323	566	0	18	0	0	18
	328	1515	0	42	0	0	42
	329	1102	0	34	0	0	34
	332	418	0	0	0	16	16
	333	310	0	0	0	14	14
	340	816	0	35	0	0	35
	341	1980	0	64	0	0	64
	360	438	0	13	0	0	13
	365	973	0	0	0	29	29
VCU Total		12,422	0	336	0	59	395
297	401	1276	63	0	0	0	63
	401	628	31	0	0	0	31
	402	1220	49	0	0	0	49
	403	769	0	32	0	0	32
	408	728	0	24	0	0	24
	411	1302	0	0	0	61	61
	413	1145	36	0	0	0	36
	414	1422	55	0	0	0	55
	416	668	29	0	0	0	29
	419	1172	38	0	0	0	38
	420	2830	0	94	0	0	94
	422	2004	0	86	0	0	86
	423	1989	65	0	0	0	65
	424	1280	42	0	0	0	42
	425	1307	0	0	0	44	44
	426	1429	0	0	0	50	50
	433	1227	44	0	0	0	44
	434	1281	52	0	0	0	52
	449	661	0	30	0	0	30
VCU Totals		24,338	504	266	0	155	925
298	500	1482	52	0	0	0	52
	503	385	0	19	0	0	19
VCU Totals		1867	52	19	0	0	71
Sawlog MBF = 95,647							
Utility MBF = 25,425							
Total all VCU's=121,072.8			1,429	1,954	615	539	4,537
Percent/Logging Method			31%	43%	14%	12%	

TABLE H-3: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 4

VCU	Total Harvest Unit	Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
293	103	412	17	0	0	0	17
	104	1470	0	46	0	0	46
	105	816	0	33	0	0	33
	107	1281	0	46	0	0	46
	109	1337	64	0	0	0	64
	124	526	0	0	0	26	26
	125	445	20	0	0	0	20
	126	648	32	0	0	0	32
	127	264	13	0	0	0	13
	128*	636	0	28	0	0	28
	129	1343	0	0	0	63	63
	131	1160	0	0	0	36	36
	132	291	0	13	0	0	13
	139	587	0	29	0	0	29
	140	223	0	11	0	0	11
	141	142	0	7	0	0	7
	143	629	0	31	0	0	31
	150	1155	47	0	0	0	47
	151	386	0	19	0	0	19
	153	1618	0	62	0	0	62
	154	702	28	0	0	0	28
	157	486	24	0	0	0	24
	158*	81	0	4	0	0	4
VCU Total		16,637	245	329	0	125	699



TABLE H-3: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 4 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres	
			Highlead	Skyline	Helicopter	Slackline		
294	200	876	28	0	0	0	28	
	201	284	0	28	0	0	28	
	202	913	0	0	0	45	45	
	203	1537	0	46	0	0	46	
	206	689	34	0	0	0	34	
	208	2057	0	67	0	0	67	
	209*	297	0	0	10	0	10	
	210	1813	0	55	0	0	55	
	213*	728	0	24	0	0	24	
	222*	371	0	0	13	0	13	
	223*	101	0	0	29	0	29	
	225	892	38	0	0	0	38	
	228	1899	0	83	0	0	83	
	231	629	31	0	0	0	31	
	232	934	46	0	0	0	46	
	234	690	0	0	0	34	34	
	235*	627	0	0	23	0	23	
	237	973	0	0	27	0	27	
	240	351	0	0	12	0	12	
	241	696	0	0	27	0	27	
	242	914	0	0	26	0	26	
	244	3692	0	0	115	0	115	
	247	1274	39	0	0	0	39	
	VCU Total		23,237	216	303	282	79	880
296	320	1187	0	35	0	0	35	
	322	1227	0	0	46	0	46	
	323	566	0	18	0	0	18	
	328*	289	0	8	0	0	8	
	329	1102	0	34	0	0	34	
	330	2144	0	0	82	0	82	
	333	310	0	0	0	14	14	
	334*	648	0	0	20	0	20	
	340	816	0	35	0	0	35	
	341	1980	0	64	0	0	64	
	351	2439	0	0	82	0	82	
	352*	545	0	0	14	0	14	
	353*	220	0	0	6	0	6	
	365	973	0	0	0	29	29	
	VCU Total		14,446	0	194	250	43	487

TABLE H-3: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 4 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
297	401	628	31	0	0	0	31
	402	1220	49	0	0	0	49
	408	728	0	24	0	0	24
	411	1302	0	0	0	61	61
	413	1145	36	0	0	0	36
	414	1422	55	0	0	0	55
	419	1172	38	0	0	0	38
	420*	539	0	18	0	0	18
	421	1255	0	54	0	0	54
	422*	398	0	17	0	0	17
	427*	479	0	17	0	0	17
	429	600	0	25	0	0	25
	431	418	14	0	0	0	14
	432*	284	0	14	0	0	14
	438*	344	0	17	0	0	17
	439	1377	68	0	0	0	68
	449	661	0	30	0	0	30
	450*	284	0	14	0	0	14
VCU Totals		14,256	291	230	0	61	582
298	500	1482	52	0	0	0	52
	503	385	0	19	0	0	19
	504*	452	0	0	17	0	17
	508*	163	0	5	0	0	5
	509	883	29	0	0	0	29
	511	1116	34	0	0	0	34
	517	1570	0	0	57	0	57
	518	329	13	0	0	0	13
	535	1970	0	0	86	0	86
VCU Totals		8,350	128	24	160	0	312
314	639	694	0	0	25	0	25
VCU Totals		694	0	0	25	0	25



TABLE H-3: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 4 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
315	710	539	0	0	20	0	20
	711*	202	0	0	6	0	6
	713*	128	0	0	5	0	5
	714	1422	0	0	53	0	53
	719	263	0	0	13	0	13
	720*	162	0	0	6	0	6
	721	640	0	0	19	0	19
	723*	297	0	0	10	0	10
	724	1673	0	0	76	0	76
	726	505	0	0	15	0	15
	728	1078	0	0	32	0	32
	729	978	0	0	27	0	27
	730	579	0	0	16	0	16
	732*	269	0	0	8	0	8
VCU Totals		8,735	0	0	306	0	306

Sawlog MBF = 68,220

Utility MBF = 18,135

Total all VCU's= 86,355.1      880      1,080      1,023      308      3,291

Percent/Logging Method      27%      33%      31%      9%

Source: Kelp Bay Planning Record, Timber Effects Report

\* Denotes Partial Harvest Unit

TABLE H-4: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 5

VCU	Harvest Unit	Total Volume (MBF)	Highlead	Logging Method		Slackline or Shovel	Total Acres
				Live Skyline	Helicopter		
293	102	670	33	0	0	0	33
	103	169	17	0	0	0	17
	104	1348	0	46	0	0	46
	105	816	0	33	0	0	33
	106	1437	0	61	0	0	61
	107	1280	0	46	0	0	46
	109	1336	64	0	0	0	64
	110	533	0	0	19	0	19
	111	283	14	0	0	0	14
	112	351	0	16	0	0	16
	113	1915	0	74	0	0	74
	114	4010	119	0	0	0	119
	116	1270	52	0	0	0	52
	117	487	24	0	0	0	24
	118	832	0	0	41	0	41
	119	528	0	0	26	0	26
	120	344	0	0	17	0	17
	122	567	0	28	0	0	28
	123	122	6	0	0	0	6
	124	527	0	0	0	26	26
	125	445	20	0	0	0	20
	126	648	32	0	0	0	32
	127	264	13	0	0	0	13
	128	3298	0	144	0	0	144
	131	1160	0	0	0	36	36
	132	291	0	13	0	0	13
	133	648	32	0	0	0	32
	134	831	0	0	0	33	33
	136	567	0	28	0	0	28
	137	648	0	32	0	0	32
	139	587	0	29	0	0	29
	140	223	0	11	0	0	11
	141	142	0	7	0	0	7
	143	629	0	31	0	0	31
	144	325	0	16	0	0	16
	145	668	0	33	0	0	33
	149	581	22	0	0	0	22
	150	1155	47	0	0	0	47
	151	386	0	19	0	0	19
	152	771	0	38	0	0	38
	153	1620	0	62	0	0	62
	154	702	28	0	0	0	28
	155	932	0	46	0	0	46
	157	486	24	0	0	0	24
	158	447	0	22	0	0	22
VCU Total		37,279	547	835	103	95	1,580



TABLE H-4: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 5 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method			Slackline or Shovel	Total Acres
			Highlead	Live Skyline	Helicopter		
294	200	876	28	0	0	0	28
	201	756	0	28	0	0	28
	202	914	0	0	0	45	45
	203	1537	0	46	0	0	46
	204	2416	0	108	0	0	108
	205	1687	0	62	0	0	62
	206	689	34	0	0	0	34
	207	1795	0	0	0	64	64
	208	2057	0	67	0	0	67
	210	1813	0	55	0	0	55
	211	404	12	0	0	0	12
	213	3736	0	122	0	0	122
	215	2064	0	68	0	0	68
	216	459	0	0	0	16SL	16
	218	1779	0	85	0	0	85
	219	1366	0	64	0	0	64
	220	825	0	0	38	0	36
	221	3114	0	0	114	0	114
	222	1921	0	0	67	0	67
	224	1065	0	0	34	0	34
	225	892	38	0	0	0	38
	226	2764	86	0	0	0	86
	228	1899	0	83	0	0	83
	229*	1724	0	0	0	48SH	48
	230	1259	0	39	0	0	39
	231	629	31	0	0	0	31
	233	674	22	0	0	0	22
	234	690	0	0	0	34SL	34
	235	3175	0	0	118	0	118
	237	973	0	0	27	0	27
	238	539	16	0	0	0	16
	239	546	0	0	17	0	17
	240	351	0	0	12	0	12
	241	696	0	0	27	0	27
	242	914	0	0	26	0	26
	244	3694	0	0	115	0	115
	246	979	37	0	0	0	37
	247	1274	39	0	0	0	39
	248	940	0	0	0	41SL	41
	249	365	16	0	0	0	16
VCU Total		56,250	359	827	595	200 SL 48 SH	2,029
						Slackline= SL      Shovel= SH	

TABLE H-4: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 5 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline or Shovel	
296	300	2142	0	62	0	0	62
	301	1590	0	46	0	0	46
	302	4387	0	0	0	152	152
	305	1674	58	0	0	0	58
	307	1706	50	0	0	0	50
	308	789	29	0	0	0	29
	309	1119	0	40	0	0	40
	310	2142	58	0	0	0	58
	311	863	30	0	0	0	30
	312	1877	36	0	0	0	36
	313*	184	0	0	0	5SH	5
	315	1069	0	33	0	0	33
	316	675	0	32	0	0	32
	317	768	0	24	0	0	24
	320	1187	0	35	0	0	35
	321	1279	0	38	0	0	38
	323	566	0	18	0	0	18
	324	1240	0	35	0	0	35
	325	722	20	0	0	0	20
	328	1515	0	42	0	0	42
	329	1102	0	34	0	0	34
	361	1751	0	0	0	52SL	52
	365	973	0	0	0	29SL	29
VCU Total		31,320	281	439	0	233 SL 5 SH	958

Slackline= SL Shovel= SH



TABLE H-4: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 5 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Skyline	Helicopter	Slackline	
297	400	1276	63	0	0	0	63
	401	628	31	0	0	0	31
	402	1221	49	0	0	0	49
	403	769	0	32	0	0	32
	408	728	0	24	0	0	24
	411	1303	0	0	0	61	61
	413	1145	36	0	0	0	36
	414	1422	55	0	0	0	55
	416	668	29	0	0	0	29
	419	1172	38	0	0	0	38
	420	2830	0	94	0	0	94
	422	2004	0	86	0	0	86
	423	1989	65	0	0	0	65
	424	1280	42	0	0	0	42
	425	1307	0	0	0	44	44
	427	2493	0	88	0	0	88
	428	709	0	35	0	0	35
	429	600	0	25	0	0	25
	431	418	14	0	0	0	14
	432	1519	0	75	0	0	75
	433	1227	44	0	0	0	44
	434	1281	52	0	0	0	52
	436	929	28	0	0	0	28
	437	755	28	0	0	0	28
	438	1782	0	88	0	0	88
	439	1377	68	0	0	0	68
	440	1843	91	0	0	0	91
	448	774	23	0	0	0	23
	449	661	0	30	0	0	30
	451	741	22	0	0	0	22
VCU Totals		36,851	778	577	0	105	1,460

TABLE H-4: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 5 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
298	504	2386	0	0	88	0	88
	506	2396	0	0	111	0	111
	507	810	0	0	40	0	40
	508	989	0	29	0	0	29
	509	882	29	0	0	0	29
	511	1116	34	0	0	0	34
	512	450	14	0	0	0	14
	515	835	0	0	0	26	26
	516	1111	21	0	0	0	21
	517	1570	0	0	57	0	57
	518	329	13	0	0	0	13
	519	1160	0	0	50	0	50
	520	135	6	0	0	0	6
	521	689	0	0	34	0	34
	522	3101	0	0	122	0	122
	523	608	30	0	0	0	30
	524	1203	0	0	32	0	32
	525	571	11	0	0	0	11
	526	1073	0	0	27	0	27
	527	849	0	0	15	0	15
	528	1013	0	0	50	0	50
	529	932	46	0	0	0	46
	531	1875	0	0	0	37	37
	533	344	0	0	17	0	17
	534*	983	0	0	26	0	26
	535	1970	0	0	86	0	86
VCU Totals		29,380	204	29	755	63	1,051
314	600	2660	81	0	0	0	81
	601	532	17	0	0	0	17
	619	722	0	0	35	0	35
	620	486	0	0	24	0	24
	621	1544	61	0	0	0	61
	622	1099	43	0	0	0	43
	624	1360	0	0	0	42	42
	630	1348	46	0	0	0	46
	631	310	10	0	0	0	10
	632	520	0	0	23	0	23
	633	526	18	0	0	0	18
	634	236	7	0	0	0	7
	635	290	9	0	0	0	9
	636	754	0	0	24	0	24
	637	1334	48	0	0	0	48
	638	378	18	0	0	0	18
	639	694	0	0	25	0	25
VCU Totals		14,793	358	0	131	42	531



TABLE H-4: Proposed Timber Harvest by VCU, Harvest Unit, and Logging Methods for Alternative 5 (con't)

VCU	Harvest Unit	Total Volume (MBF)	Logging Method				Total Acres
			Highlead	Live Skyline	Helicopter	Slackline	
315	700	324	0	0	0	16	16
	701	404	0	14	0	0	14
	702	1045	0	41	0	0	41
	703	1807	0	0	0	68	68
	706	1495	46	0	0	0	46
	707	1673	53	0	0	0	53
	709	1839	0	55	0	0	55
	710	539	0	20	0	0	20
	711	1091	0	34	0	0	34
	713	688	0	0	0	26	26
	714	1422	0	53	0	0	53
	715	1227	0	30	0	0	30
	719	263	13	0	0	0	13
	720	869	31	0	0	0	31
	721	640	19	0	0	0	19
	723	1651	55	0	0	0	55
	724	1673	0	76	0	0	76
	725	627	25	0	0	0	25
	726	505	0	0	15	0	15
	727	155	5	0	0	0	5
	728	1078	0	0	32	0	32
	729	978	0	0	27	0	27
	730	579	0	0	16	0	16
	732	1293	0	40	0	0	40
VCU Totals		23,865	247	363	90	110	810
Sawlog MBF = 181,493							
Utility MBF = 48,245							
Total all VCU's=229,738			2,774	3,070	1,674	848 SL 53 SH	8,419
Percent/Logging Method			33%	36%	20%	10% SL 1% SH	

Source: Kelp Bay Planning Record, Timber Effects Report

\* Denotes Partial Harvest Unit

TABLE H-5: List of roads that would be built for long term access by VCU for each alternative.

VCU	Road Number	Alternative			
		2	3	4	5
293	7588	2.06	4.99	2.06	4.99
	7722	6.39	4.59	6.39	4.59
	7723	0	0.41	0.41	0
	7724	0.83	1.90	0.83	0.83
	7725	0	1.03	1.56	1.03
	7727	1.12	0	0	0
	7728	0.27	0.27	0.27	0.27
	7729	1.87	1.87	1.87	1.87
	75882	1.04	0.21	1.04	0.21
	77221	0.17	0	0.17	0
	77241	0	0.17	0	0.17
	77254	0	0	0.31	0
	Totals	13.75	15.44	14.91	13.96 mi.
294	7539	8.37	8.37	8.55	8.37
	7733	2.72	3.13	2.72	3.13
	75392	1.38	0	0.73	0
	75398	0	1.25	1.04	1.25
	Totals	12.47	12.75	13.04	12.75 mi.
296	7530	6.55	1.84	1.84	3.57
	7532	4.98	4.98	4.98	0
	7533	1.86	0	0	0
	7700	1.14	0.91	0.91	0.91
	7710	1.93	0	0	0
	7720	0	0.06	0.56	0
	7737	0.23	0.23	1.53	0.23
	75321	0.87	0	0	0
	Totals	17.56	8.02	9.82	4.71 mi.
297	7700	13.90	7.60	4.98	9.73
	7701	0	1.28	1.28	1.28
	7703	0	1.78	0	1.78
	7708	0.39	0	0	0
	7709	0.59	0	0	0
	7720	1.75	2.76	2.94	1.49
	7730	2.38	2.38	2.38	2.38
	7735	1.02	0	1.02	0
	7736	2.11	0	1.21	2.11
	7740	3.57	0.96	3.57	3.57
	7741	0	0.43	0	0.43
	Totals	25.71	17.19	17.38	22.77 mi.



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298	7532	1.17	1.17	1.17	0
	7535	4.08	0	1.22	5.39
	7538	0	0	2.41	0
	7567	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.69</u>
	Totals	5.25	1.17	4.80	6.08 mi.
314	7567	0	0	0	0.90
	7575	0	0	0	1.55
	75753	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.59</u>
	Totals	0	0	0	3.04 mi.
315	7527	2.30	0	0	2.80
	7532	0.04	0.04	0.04	0
	7536	0.93	0	1.40	0.93
	7537	1.39	0	0	1.39
	7571	1.13	0	0	1.13
	7597	0.42	0	0.42	2.17
	75371	2.62	0	0	2.62
	75971	<u>0</u>	<u>0</u>	<u>0</u>	<u>1.43</u>
	Totals=	8.83	0.04	1.86	12.47 mi.

Alternative Totals= 83.57 mi. 54.65 mi. 61.81 mi. 75.78 mi.

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TABLE H-6: List of roads that would be built for short term access by VCU for each alternative.

VCU	Road Number	Alternative			
		2	3	4	5
293	7722	0	1.10	0	1.10
	7723	0.78	0.37	0.47	0.78
	7724	0	0	0	1.70
	7725	1.56	0.53	0	0.53
	7727	0	2.06	2.06	2.06
	7729	0	1.09	0	1.09
	75881	0	0.83	0	0.83
	75882	0	0.83	0	0.83
	75884	0	0.76	0	0.76
	77231	0.60	0	0.60	0
	77241	1.03	0.86	1.03	0.86
	77251	0.38	0.38	0	0.38
	77291	0	0.35	0.35	0.35
	Totals	4.35	9.16	4.51	11.27 mi.
294	7539	2.44	2.44	2.26	2.44
	7724	0	0	0	1.06
	7733	0	1.13	0	1.13
	75392	0	1.53	1.0	1.53
	75393	0.47	0.47	0.47	0.47
	75394	0	0.60	0	0.60
	75397	1.05	1.05	1.05	1.05
	75398	0	0.66	0	0.66
	Totals	3.96	7.88	3.78	8.94 mi.
296	7530	0	0	0	3.68
	7533	0	0	0	2.39
	7700	1.20	0	0	0
	7720	0	0.98	0.48	0.83
	7737	2.29	2.50	0	2.50
	75331	0	0	0	0.74
	Totals	3.49	3.48	0.48	10.14 mi.
297	7701	2.24	0.97	0.97	0.97
	7704	0.56	0.56	0	0.56
	7705	0	0	0	0.67
	7706	0	0	0	0.71
	7720	0	0.18	0	1.44
	7735	0	0	0	2.11
	7736	0.62	0	1.53	0.62
	7740	0.56	0	0.56	0.56
	77301	0	0.93	0.93	0.93
	Totals	3.98	2.64	3.99	8.57 mi.



298	75351	0.24	0	0	0.24
	7538	<u>2.41</u>	<u>0</u>	<u>0</u>	<u>2.41</u>
	Totals	2.65	0	0	2.65 mi.
314	7597	0	0	0	1.63
	75753	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.97</u>
	Totals	0	0	0	2.60 mi.
315	7562	0.26	0	0	0.26
	7571	0.72	0	0	0.72
	7597	0	0	0	0.01
	75271	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.53</u>
	Totals	0.98	0	0	1.52 mi.

Alternative Totals = 19.41 mi. 23.16 mi. 12.76 mi. 45.69 mi.

Temporary roads are the short spurs that are needed to access landings for both ground based and aerial logging. These spurs are short-lived and not intended to be part of the forest development transportation system and not necessary for future resource management. Table H-7 displays the miles of temporary roads by alternative by VCU needed to facilitate logging.

TABLE H-7: List of roads that would be built for temporary access by VCU for each alternative.

VCU	Road Number	Alternative			
		2	3	4	5
293	Temporary roads	5.95	9.60	4.55	10.65
294	Temporary roads	2.17	3.89	1.93	4.51
296	Temporary roads	1.04	0.75	0.69	2.63
297	Temporary roads	5.59	3.05	3.61	4.83
298	Temporary roads	0.86	0	0.78	0.84
314	Temporary roads	0	0	0	1.69
315	Temporary roads	<u>1.29</u>	<u>0</u>	<u>0</u>	<u>3.44</u>
Alternative Totals =		16.90	17.29	11.56	28.59 mi.

TABLE H-8: Summary listing of Long Term, Short Term, and Temporary roads by VCU in each Alternative by miles.

VCU	Roads	Alternative			
		2	3	4	5
293	Long Term Roads	13.75	15.44	14.91	13.96
	Short Term Roads	4.35	9.16	4.51	11.27
	Temporary Roads	<u>5.95</u>	<u>9.60</u>	<u>4.55</u>	<u>10.65</u>
	Total	24.05	34.20	23.97	35.88 mi.
294	Long Term Roads	12.47	12.75	13.04	12.75
	Short Term Roads	3.96	7.88	3.78	8.94
	Temporary Roads	<u>2.17</u>	<u>3.89</u>	<u>1.93</u>	<u>4.51</u>
	Total	18.60	24.52	18.75	26.20 mi.
296	Long Term Roads	17.56	8.02	9.82	4.71
	Short Term Roads	3.49	3.48	0.48	10.14
	Temporary Roads	<u>1.04</u>	<u>0.75</u>	<u>0.69</u>	<u>2.63</u>
	Total	22.09	12.25	10.99	17.48 mi.
297	Long Term Roads	25.71	17.19	17.38	22.77
	Short Term Roads	3.98	2.64	3.99	8.57
	Temporary Roads	<u>5.59</u>	<u>3.05</u>	<u>3.61</u>	<u>4.83</u>
	Total	35.28	22.88	24.98	36.17 mi.
298	Long Term Roads	5.25	1.17	4.80	6.08
	Short Term Roads	2.65	0	0	2.65
	Temporary Roads	<u>0.86</u>	<u>0</u>	<u>0.78</u>	<u>0.84</u>
	Total	8.76	1.17	5.58	9.57 mi.
314	Long Term Roads	0	0	0	3.04
	Short Term Roads	0	0	0	2.60
	Temporary Roads	<u>0</u>	<u>0</u>	<u>0</u>	<u>1.69</u>
	Total	0	0	0	7.33 mi.
315	Long Term Roads	8.83	0.04	1.86	12.47
	Short Term Roads	0.98	0	0	1.52
	Temporary Roads	<u>1.29</u>	<u>0</u>	<u>0</u>	<u>3.44</u>
	Total	11.10	0.04	1.86	17.43 mi.
Alternative Totals=		119.88	95.06	86.13	150.06 mi.



# **Appendix I**

## **Evaluation of Proposed Log Transfer Facilities**





## APPENDIX I

The purpose of this appendix is to document the detailed evaluation of the direct effects from proposed Log Transfer Facility (LTF) locations. Currently, there are no actual facilities for transferring logs to saltwater at any of the former LTF sites. Log raft storage is occurring at Hanus Bay, Saook Bay, and Appleton Cove, with the remaining sites being inactive (Costa, 1991).

This appendix summarizes the direct effects from currently proposed activities in the action alternatives. It provides an evaluation for each of 12 proposed LTF locations. The first section compares LTFs where only one of two or more locations would be needed. The second section provides the same level of detail for those LTF locations where there is lower conflict and the site was mutually acceptable between the Forest Service, U.S. Fish and Wildlife Service, and National Marine Fisheries Service.

Listed below is the same table as used in Chapter 4 showing the LTFs proposed by each alternative. It is provided again here for easy reader reference.

Twelve proposed LTFs in the Kelp Bay Project Area were evaluated for suitability based on guidelines set forth in the Log Transfer Facility Siting, Construction, Operation, and Monitoring/Reporting Guidelines, dated October 21, 1985, as developed by the Alaska Timber Task Force Committee. These guidelines delineate methods and criteria to avoid or manage impacts on water quality, fish, and wildlife resources. Biologists from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service conducted subtidal biological surveys using SCUBA gear as part of the evaluation process.

### Facility Siting

To implement timber harvest and log transfer as addressed in the Kelp Bay EIS, permits from other agencies must be obtained. Administrative actions on these permits would ideally take place between Draft EIS and Final EIS, so the Record of Decision could address facility design and mitigation measures necessary for log transfer. The agencies with permitting authority are listed at the end of Chapter 1. Each agency evaluates the potential effects of the proposed LTFs based on the potential biological and physical impacts. Table I-2 shows which guidelines would be met by each of the proposed LTFs. Alaska Timber Task Force siting guidelines for LTFs are listed in Table I-3.

Table I-1. Comparison of LTFs needed for each alternative.

VCU	LTF NAME	Alternatives				
		1	2	3	4	5
293	Appleton Cove <sup>1/</sup>	-	X	X	X	X
293	SE Rodman Bay <sup>or</sup>					
292	Rodman Bay					
294	West Saook	-	X	X	X	X
296/297	Hanus Bay <sup>or</sup> <sup>2/</sup>	-	X	X	X	X
296/297	North Hanus Bay					
298	Bourbon Creek	-	X	-	X	X
314	West/East South Arm <sup>2/</sup>	-	-	-	-	X
314	North Point	-	-	-	-	X
315	North Basin	-	X	-	X	X
315	South Basin	-	X	-	X	X
315	Cosmos Cove	-	X	-	-	X
	TOTAL LTFs	0	7	3	6	9

SOURCE: Burns, 1991.

- 1/ Only one of the three LTFs under consideration in the Appleton Cove area would be constructed to support transfer of logs to saltwater for the action alternatives.
- 2/ Only one of the two LTFs under consideration in Hanus Bay or the headwaters of South Arm would be constructed to support transfer of logs to saltwater for the action alternatives. Twelve proposed LTFs in the Kelp Bay Project Area were evaluated for suitability based on guidelines set forth in the Log Transfer Facility Siting, Construction, Operation, and Monitoring/Reporting Guidelines, dated October 21, 1985, as developed by the Alaska Timber Task Force Committee. These guidelines delineate methods and criteria to avoid or manage impacts on water quality, fish, and wildlife resources. Biologists from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service conducted subtidal biological surveys using SCUBA gear as part of the evaluation process.



Table I-2. Comparison of LTF locations to the 10 siting guidelines.

VCU	LTF NAME	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	TOTAL
293	Appleton Cove <sup>1/</sup>	+	+	+	+	+	-	-	+	+	+	8
293	SE Rodman Bay	+	+	+	-	+	+	+	-	+	+	8
292	Rodman Bay	+	+	+	+	-	+	+	+	+	+	9
294	West Saook	+	+	+	+	+	-	+	+	+	+	9
296/297	Hanus Bay <sup>2/</sup>	+	+	+	+	-	-	+	+	+	+	8
296/297	North Hanus Bay	-/+	-	+	+	+	+	+	-	+	+	8
298	Bourbon Creek	+	+	+	+	+	-	+	+	+	+	9
314	South Arm	+	+	+	+	+	+	-	+	+	-	8
314	North Point	+	+	+	+	+	-	+	-	+	+	8
315	North Basin	+	+	+	+	+	+	+	+	+	+	10
315	South Basin	+	+	+	+	-	+	+	+	+	-	8
315	Cosmos Cove	+	+	+	+	+	+	+	+	+	+	10

SOURCE: Burns, 1990.

- 1/ Only one of three LTFs under consideration in the Appleton Cove area would be constructed to support transfer of logs to saltwater for the action alternatives.
- 2/ Only one of the two LTFs under consideration in Hanus Bay or the headwaters of South Arm would be constructed to support transfer of logs to saltwater for the action alternatives.

+ indicates the location meets this guideline; - indicates location does not fully meet the guideline.

Of the 12 proposed log transfer facilities, only two locations would meet all 10 siting guidelines. Three proposed LTFs would meet 9 of the 10 guidelines and 7 proposed locations would meet 8 of the 10 guidelines. Table I-1 shows which LTFs would be needed to implement each of the action alternatives.

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Table I-3. Alaska Timber Task Force Log Transfer Facility siting guidelines

Guideline

ALASKA TIMBER TASK FORCE DISCUSSION

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- S1                    *Proximity to Rearing and Spawning Habitat.* Location should be 300' from the mouths of anadromous fish streams and in areas known to be important to fish spawning or rearing habitat.
- S2                    *Protected Locations.* Log transfer and storage area should be sited in weather-protected locations suitable for anchoring.
- S3                    *Upland Facility Requirements.* LTFs should be sited in proximity to at least 5 acres of relatively flat uplands. There should also be a body of water to provide a minimum of 60 linear foot space at the operating face.
- S4                    *Safe Access to Facility.* This guideline addresses access to the LTF and adjoining log sort yard for the facility should be sited where access roads can maintain a grade of 10% or less for trucks and 4% for specialized equipment.
- S5                    *Bark Dispersal.* LTFs should be sited along or adjacent to straits and channels or deep bays where currents may be strong enough to disperse sunken or floating wood debris. Siting LTFs in embayments with sills or other natural restrictions to tidal exchange should be avoided.
- S6                    *Site Productivity.* Sites for in-water storage and/or transfer of logs should be located in areas having the least productive intertidal and subtidal zones.
- S7                    *Sensitive Habitats.* LTFs and log raft storage areas should not be sited on or adjacent to extensive tideflats, salt marshes, kelp or eelgrass beds, seaweed harvest areas, or shellfish concentration areas.
- S8                    *Safe Marine Access to Facilities.* Log rafting and storage facilities should be safely accessible to tug boats with log rafts as most tides on most winter days.
- S9                    *Storage and Rafting.* Logs, log bundles, or log rafts should be stored in areas where they will not ground at low tide. A minimum depth of 40 feet or deeper measured at Mean Lower Low Water (MLLW) for log raft storage is preferred.
- S10                   *Avoid Bald Eagle Nests Trees.* No project construction should be closer than 330 feet to any bald eagle nest tree.
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SOURCE: Burns, 1991, Appendix 4.

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## Section I - Comparison of alternate LTF locations within a transportation shed.

The following discussion applies to those VCUs where more than one LTF could be used. Alternative locations were evaluated in three VCUs. These were: Appleton Cove and Rodman Bay (VCUs 292 and 293), where three locations were evaluated and compared. In Hanus Bay (VCUs 296 and 297), two locations were evaluated and in the South Arm of Kelp Bay, two locations were evaluated. In each combination, only a single site will be chosen for development. This decision will be made by the Regional Forester after public comment on the Draft EIS. This appendix is designed to assist in making a reasoned choice between LTF locations.

### VCU 293 (and VCU 292): Appleton Cove (and Rodman Bay)

Three sites were considered for transferring timber volume from the uplands to saltwater. Of the three locations, only one site would be developed as a LTF for the action alternatives currently under consideration. Appleton Cove, Rodman Bay, and southeast Rodman Bay were the three locations investigated.

#### Appleton Cove

The first site under consideration is the original Appleton Cove LTF developed and used from 1964 to 1966 (Schultz and Berg, 1976). Within Appleton Cove, log raft storage is an ongoing activity. This location pre-dates the Alaska Timber Task Force siting guidelines established in 1985 (Burns, 1991).

If approved, this facility would be redeveloped as a low-angle slide. The direct effect of redeveloping the Appleton Cove LTF would be rock fill on approximately 0.25 to 0.5 acres of benthic habitat for the slide. Assuming bark coverage does not exceed that already experienced (0.9 acres), total direct impacts would be between 1.15 and 1.4 acres. This amounts to 0.8 percent to 0.9 percent of the estuarine habitat within Appleton Cove, and 0.2 percent of total estuarine habitat tributary to an Appleton Cove LTF. This represents a minute area; because all 13 species identified along transects are common throughout Southeast Alaska and along the Pacific coast, effects are considered minor (Burns, 1991).

In 1976, the survey findings indicated approximately 0.9 acres around the former LTF had been completely covered by bark debris. Depth of the bark debris was 5 cm after 10 years of inactivity (Schultz and Berg, 1976). The 1990 subtidal survey indicated scattered bark debris along a 40 meter distance, between 15 and 55 meters, but did not estimate area of coverage or bark depth (Hughes and Peterson, 1990). Alaska Timber Task Force guidelines specify criteria for operations at a LTF. Guideline C6 states "the interim threshold bark accumulation level is described as 100% bark coverage exceeding both 1 acre in size and a thickness greater than 10 cm at any point." Based on the information from 1976, Appleton Cove is below both the acre and bark depth threshold, and meets implementation expectations (Burns, 1991).

The estimated cost of constructing a low-angle slide facility in Appleton Cove would be \$53,000. Haul costs for approximately 26 MMBF would be roughly \$36,000, for a total of \$89,000 (Costa, 1991).

#### Southeast Rodman Bay

The Southeast Rodman Bay site falls outside of both the Appleton Cove and Rodman Bay estuaries, and therefore would not impact sensitive estuary habitat. Transect data indicate 23 different species noted in the 100-meter distance (Hughes and Peterson, 1990); this exhibits a greater species diversity than at the Appleton Cove LTF or at the Rodman Bay LTF in 1976.

The depth-distance transect indicates that this site creates a shelf gradually deepening to 20 meters approximately 250 feet from Mean High Water (Hughes and Peterson, 1990). If developed, this location would become a low-angle slide transfer facility. The direct effect of developing this new location would be rock fill on approximately 0.25 to 0.5 acres of benthic habitat (Burns, 1991). The 1990 subtidal survey report indicates since this location "drops off to deeper waters of Rodman Bay (>60 m) seaward of the end of the transect, flushing action at this site would be good" (Hughes and Peterson, 1990). Bark accumulation may occur along the upper portions of the transect since a small shelf is a natural occurrence; otherwise, flushing should be adequate to minimize concerns for bark accumulation. Loss of approximately 0.5 acres of benthic habitat to fill and perhaps bark accumulation

on approximately 1 acre would total 1.5 acres directly impacted. There are approximately 20 miles (roughly equal to 940 acres of habitat) of marine system shoreline habitat within Rodman Bay. The area of direct impact would be minor compared to the total available marine system environment in VCUs 292 or 293 (Burns, 1991).

The estimated cost of constructing a low-angle slide facility at the Southeast Rodman Bay site would be \$275,000. Haul costs for approximately 26 MMBF would be roughly \$63,000, for a total of \$338,000 (Costa, 1991).

#### Rodman Bay

There is no current subtidal information concerning the third location in Rodman Bay. This site was used from 1960 to 1964, with a lift-off, log bulk head system (Schultz and Berg, 1976). Rafting of logs occurs in Appleton Cove and the head of Rodman Bay. Log raft storage is expected to continue as it has through the years (Burns, 1991).

The Rodman Bay LTF is located outside of both the Adams Creek and Rodman Creek estuaries (Burns, 1991). Species diversity in 1976 was 15 species at the LTF and 9 species at the control location (Schultz and Berg, 1976). None of the species identified along either transect were unique or unusual to Southeast Alaskan coastal waters (Burns, 1991).

Road construction from Appleton Cove over a ridge would require approximately 9 miles of road construction (Costa, 1991), which includes crossing five anadromous fish streams to reach the site previously used to transfer logs into Rodman Bay. These streams are 113-54-06, 113-54-07 - "Rodman Creek," 113-54-08, 113-54-09 - "Clear Creek," and 113-54-10 - "Adams Creek." Due to steepness of topography, this road would parallel the shoreline for 3 to 5 miles. The lower Adams Creek and Rodman Creek consist of unstable alluvial areas, particularly sensitive to erosion. The former road which crossed from Rodman Creek around the head of Rodman Bay across Adams Creek and to the former LTF has been severely eroded since the 1960s, and a new location farther inland from the shoreline should be investigated, if this location is selected for development. An inland road location would protect both the investment in the road and prevent additional erosion into Rodman Bay (Lorenz, 1991). Bridge crossings at each of the anadromous fish streams would be designed to have the least environmental impact possible when BMPs stated in the Region 10 Soils and Water Conservation Handbook are applied (FSH 2509.22).

If selected, this facility would be a bulkhead facility with either a single or double A-frame lift-off system. This is similar to what was used on site in the past (Costa, 1991). Direct effects would include reconstruction of the bulkhead, which would likely impact 0.1 to 0.25 acres of benthic habitat (Burns, 1991). The 1976 subtidal survey showed there was bark coverage on 2.8 acres with a mean bark depth of 14 cm (Schultz and Berg, 1976). Assuming bark coverage from current activities would not increase the area of bark coverage, total direct impacts would be approximately 3.05 acres. Since the Rodman Bay LTF site falls outside of any estuaries, this small area compares to roughly 20 miles of similar shoreline habitat within Rodman Bay. This would represent less than 0.3 percent of the marine system habitat and be minor in comparison to the total available (Burns, 1991).

The estimated cost of reconstructing a bulkhead facility at the Rodman Bay LTF site would be \$789,000. Haul costs for approximately 26 MMBF would be roughly \$103,000, for a total of \$892,000. This location would also serve to transport approximately 57 MMBF in the future from the uplands in VCUs 289-292, which are outside the Kelp Bay Project Area (Costa, 1991).

Of the three locations, not one meets all 10 siting guidelines. The Appleton Cove location fails to meet the guidelines for sensitive habitats and site productivity (Hughes and Peterson, 1990).

The Southeast Rodman location fails to meet the safety requirements for access from the uplands; the access road to the location would be through the logging camp at roughly a 10 percent grade. It is also questionable if this alternate location would provide safe access to tug boats at most tides in adverse weather. Additional field verification would be necessary to determine the use of the location in adverse weather (Costa, 1991).



The former LTF in Rodman Bay meets 9 of the 10 siting guidelines. The one where it falls short is bark dispersal, since the records indicate 2.8 acres are covered by bark.

In their 1990 report, Hughes and Peterson stated, "We strongly recommend that the Appleton Cove site not be developed. Although the area was previously utilized as an LTF, it does not meet current LTF siting criteria. Appleton Cove is a highly productive estuarine area which supports commercially valuable finfish and shellfish resources. The cove is very shallow and poorly flushed."

A final determination on which location to select must weigh the effects to a relatively small area of estuary (<1%) in Appleton Cove against the potential for loss of human life or property if the Southeast Rodman location is determined not to meet all safety guidelines (Burns, 1991).

In comparison, the potential loss of approximately 1.4 acres of estuarine habitat within a 439 acre estuary (<1%) is considered of small concern when compared to the potential disturbance of five anadromous fish streams and wildlife habitat at the head of Rodman Bay. It is also of small importance when compared to safety concerns if the Southeast Rodman Bay alternate site could not be designed to meet siting guideline S8 (Burns, 1991).

Economically, the cost difference from re-use of the Appleton Cove to the Southeast Rodman Bay site is \$249,000. To haul this same volume to the old LTF site in Rodman Bay would be a tenfold increase, or \$803,000 (Costa, 1991). Neither substantial increase in cost seems to be warranted to "provide protection" for 1.4 acres of estuarine habitat which is already covered by bark (Burns, 1991).

If the accumulation of bark at the Appleton Cove location is the limiting factor for re-use of this old location, then mitigation measures such as suction-dredging bark deposits following completion of timber harvest should be explored. Current preference would be for development and use of the Appleton Cove LTF (Burns, 1991).

#### VCUs 296 and 297: Portage Bay and Catherine Island

Two sites were investigated in Hanus Bay. The first is the site previously used as a log transfer facility, and the second is a proposed alternative location. Of the two sites investigated, only one would be developed as a log transfer facility to support timber harvest in the action alternatives (Burns, 1991).

The South Hanus Bay location is adjacent to the estuary, while the North Hanus Bay location would be about one-half-mile north of the estuary near Hanus Point. Log transfer facility development at either of these sites would directly impact about 0.5 acre of the benthic environment with rock fill or riprap during the construction of the LTF. Additional direct impacts might accrue from bark deposition in the subtidal area (Burns, 1991). At either of the areas, it is not expected that deposition would exceed the average of approximately 2 acres (Faris and Vaughan, 1985).

A comparison of the transect data for the two proposed sites for Hanus Bay shows a difference in the number of species present. The transect for South Hanus Bay indicates a total of 14 different species versus 21 different species present in a 100-meter transect for North Hanus Bay (Hughes and Peterson, 1990). All of the species present along either transects are common throughout Alaskan coastal waters, with the alternate location exhibiting greater species diversity (Burns, 1991).

#### South Hanus Bay

Approximately 0.5 acres of the 149 acres in Hanus Bay would be directly affected by rock fill. This amounts to less than 1 percent of the habitat within Hanus Bay (0.33%). Bark debris are present at this location, although the depth and extent were not estimated at the time the subtidal survey was performed. It is assumed the extent and depth does not exceed the interim threshold of 100 percent bark coverage on 1 acre or 10 cm at any one point (Guideline C6, Alaska Timber Task Force Guidelines). An additional area which may incur bark deposits, not expected to exceed the average of approximately 2 acres (Faris and Vaughan, 1985), would bring the total potential impact to approximately 1.7 percent of the habitat within the Hanus Bay estuary. In comparison to the total estuary habitat tributary to this LTF, the percentage is 0.28 percent of the available habitat. This figure represents such a small percentage; overall impacts would be minor (Burns, 1991).

The 1990 subtidal survey report says King crab, a commercial species (Hughes and Peterson, 1990), continue to inhabit Hanus Bay, in spite of bark debris scattered over a 35-meter distance along the 100-meter transect (Burns, 1991). This location exhibits greater abundance, but less diversity of species than the north Hanus location (Hughes and Peterson, 1990).

The South Hanus Bay LTF location may fail to meet the guideline for bark dispersal. The 1990 subtidal survey transect does not specify the depth of bark nor the extent of bark coverage. It is assumed bark accumulation in Hanus Bay does not exceed the interim threshold. This site falls within the Hanus Bay estuary, although direct impacts are expected to be around 1.7 percent of the total estuary (2.5 out of 149 acres) (Burns, 1991).

Estimated costs for reconstructing the Hanus Bay LTF would be \$270,000, for a low-angle slide, campsite, and sort yard. Haul costs difference between the two locations were considered negligible and did not factor into the comparison (Costa, 1991).

#### North Hanus Bay

Development at the North Hanus site would be a bulkhead to deep water protected by a major breakwater. If constructed, the breakwater would consist of rock riprap approximately 500 feet long with an "L" extending 200 feet to provide protection for year-round use. This would directly impact about 3 acres of marine habitat covered by rock riprap fill, in addition to the roughly 0.5 acres needed for the LTF bulkhead (Costa, 1991).

In addition, this proposed location adjoins the delta of a small anadromous fish stream. The breakwater, needed to provide safe protection to operations, would adjoin the entrance to the Class I stream, resulting in spawning salmon "pooling" inside the breakwater waiting to run the streams. Operations at this site have the potential to adversely impact spawning salmon, as well as affecting outmigrating fry (Costa, 1991). This area should provide adequate flushing (Hughes and Peterson, 1990), so concern for accumulation of bark debris is minor.

Approximately 3.5 acres of the marine habitat would be directly affected by rock fill for the bulkhead and breakwater facility. Since the North Hanus location would fall outside any of the estuary habitat, adverse impacts would occur to the marine system rather than estuarine system habitat. In general, marine systems are less productive, although the North Hanus site did have greater species diversity. There are approximately 50 miles of shoreline (roughly 2,300 acres of marine system habitat) in VCUs 296 and 296. Loss of 3.5 acres of exposed shoreline habitat represents 0.2 percent of the total available. When compared to abundance of similar habitat in the area, and that all species located along the transects were common throughout Southeast Alaska, these impacts are not viewed as significant. Based on these reasons, the North Hanus Bay proposal would have greater direct effects by covering up more area, and more diverse species, than redeveloping the former South Hanus Bay LTF (Burns, 1991).

Estimated costs for developing a bulkhead facility with A-frame, new campsite, breakwater, and new sortyard would be roughly \$1,049,000 (Costa, 1991).

While the South Hanus Bay LTF site fails to meet all 10 siting guidelines, the North Hanus Bay location under consideration also fails to meet all 10 of the siting guidelines. The North Hanus location would not meet the guidelines for safe operations (S2, S8). It may also have a direct effect on a small anadromous fish stream. The actual LTF would be approximately 500 feet from the mouth of the anadromous fish stream which meets guidelines, but the associated road and breakwater construction could directly affect migrating salmon fry. This indicates greater potential direct effects from development of the North Hanus location, as opposed to re-using the South Hanus Bay LTF location. Combined with this evaluation also needs to be the potential loss of human life and property weighed against the relatively small loss of 2.5 acres of estuarine habitat at the old LTF location.

The 1990 subtidal survey report prepared by Hughes and Peterson states, "The Hanus Bay site does not meet the Timber Task Force LTF siting guidelines, including the criteria for water depth, site productivity, and bark accumulation. Significant accumulations of bark deposits in the shallow, productive inner basin of Hanus Bay would result if the former LTF were redeveloped. Development of the alternate site is preferable. North Hanus has a moderately steep slope and would be better flushed than the former Hanus LTF" (Hughes and Peterson, 1990).



Due to the cost difference in developing the two sites (\$270,000 versus \$1,049,000) and the question of whether a safe facility could even be designed which would provide year-round use along the open face of North Hanus, reuse of the existing location would be preferable. In addition, greater marine diversity is exhibited at the North Hanus site (20 species versus 14 species) and more acreage (3.5 acres versus 1.4 acres) would be directly impacted because of the breakwater required.

#### VCU 314: South Arm of Kelp Bay

Two separate LTF locations were evaluated for the South Arm of Kelp Bay (VCU 314). These locations were on opposing sides of the Arm -- one along the east side of the bay approximately 3,900 feet from the mouth of Glacial River, and the other along the west side of the bay approximately 1,200 feet from the mouth of Clear River.

##### West South Arm

The proposed location for a LTF along the west side of South Arm is approximately 1,200 feet from the mouth of Clear River, an anadromous fish stream which supports highly productive habitat for pink and chum salmon (Starostka, 1990). The subtidal survey indicated that the abundance and diversity of marine plants and animals was very low. The transect data identifies seven different marine species present. This number of species is lower than at other sites approved for development. Direct effects of developing a LTF on this location would be more related to upland concerns for wildlife habitat, eagle nest trees, and crossing fish streams to reach this location, rather than being related to the marine species present on site. The reader is referred to the wildlife and fisheries sections of Chapter 4 for more information.

Direct impacts due to construction of a bulkhead would be approximately 0.1 to 0.25 acres. Since the bottom profile of the proposed site is steeper than other locations investigated in Kelp Bay and meets siting criteria, it is assumed there would be adequate bark dispersal. Direct effects would amount to less than one tenth of one percent (.07%) of the estuarine habitat at the head of South Arm. Although development of this location would not have great impact on the marine environment, it conflicts with an eagle nest location and causes concern for the adjacent wildlife habitat and fishery resource. The reader is referred to the wildlife and fish effects analysis sections.

##### East South Arm

The proposed location for an LTF along the east side of South Arm is approximately 3,900 feet from the mouth of Glacial River, an anadromous fish stream. Subtidal reconnaissance indicated the abundance and diversity of marine plants and animals was very low. Speculation was that the natural turbidity of the water, due to glacial silt, reduced sunlight and species. Direct effects of developing an LTF on this location would be more related to upland concerns for wildlife habitat, eagle nest trees, and crossing fish streams to reach this location, rather than being related to the marine species present on site. Although the soft, silt substrate is excellent habitat for Dungeness crab. The reader is referred to the wildlife and fisheries sections for more information.

If selected, this location would be constructed as a bulkhead with a lift-off system into deep water. One concern for this area related to construction is the depth of glacial silt in the area where the bulkhead and transfer to water would be. The 1990 subtidal survey report does not provide a depth-distance transect for this location, but it is assumed the bathymetry would be similar to that of west South Arm. It is assumed to meet siting criteria for depth of water.

Both locations have similar characteristics and fail to meet the same siting guidelines. Guidelines for locating LTFs away from sensitive habitats and away from eagle nest trees could not be met for either location due to the steepness of terrain, which severely restrict options to move access roads or LTF locations. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service are adamantly opposed to development of an LTF in the head of South Arm (Hughes and Peterson, 1990).

## Section II - Additional LTF evaluations

While the first section of Appendix I addresses comparison of sites where only one of two or more LTFs would be developed, this section shows the evaluation of the remaining LTFs where there would be no conflicts with selecting an agreed-upon location. This section provides a means for comparing locations of "apparent controversy" (i.e., Appleton Cove, Hanus Bay, and South Arm) with those apparently of less controversy (i.e., Saook, Basin, Bourbon Creek, and North Point). This comparison can be made in terms of estimated impacts, species diversity, and ability to meet the Alaska Timber Task Force Log Transfer Facility siting guidelines.

### VCU 294: Saook Bay

#### East Saook Bay

In Saook Bay, one alternate location was investigated along the eastern shore of the bay. This alternate location was evaluated in the event a road connection could not be made between the Peril Strait portion of VCU 294 and the previously used LTF (Hughes and Peterson, 1990). The road connection was feasible to the old LTF so the alternate location in Saook Bay was dropped from further consideration.

#### West Saook Bay

This location was one of 32 LTFs investigated by the Schultz and Berg study in 1976. The results of their subtidal survey showed there was a species diversity of 10 in 1976 at the LTF location compared to 19 species at the control site (Schultz and Berg, 1976). This compares to 13 species appearing in the 1990 subtidal survey (Hughes and Peterson, 1990). The Schultz and Berg study in 1976 also mapped an area of approximately 0.9 acres completely covered by bark, with an average bark depth of 14 cm. The current transect data fails to record any evidence of bark debris; extent and/or depth is unknown.

If chosen for development, this LTF would be redeveloped as a bulkhead or dock facility with either a single or double A-frame lift-off system. Such reconstruction would be similar to that used in the early 1960s (Costa, 1991). It is assumed that if the same location were reused with the same type of facility, the effects on the marine habitat would be similar. This means a direct effect on benthic habitat in the range of 0.1 to 0.25 acres. It is assumed bark accumulation would not extend farther than that experienced from past activities, or 0.9 acres. This would create a total direct effect on 1.0 to 1.15 acres of benthic habitat -- a relatively small area, since this location falls outside the estuary and the species diversity is low, at 13. All of the species identified along the transect are common to the coastal habitats in Southeast Alaska.

The old Saook Bay LTF location falls adjacent but outside of the Saook estuary. This location appears to meet nine out of ten of the siting guidelines. The guideline it may not meet is S5, bark dispersal; bark depth averaged 14 cm, approximately 4 cm above the interim threshold (Schultz and Berg, 1976). It is not clear if bark debris would continue to be of concern; the 1990 subtidal survey failed to note any bark debris in the transect recordings (Burns, 1991).

### VCU 298: Middle Arm of Kelp Bay

#### Bourbon Creek

An LTF site was previously used at the mouth of Bourbon Creek in the Middle Arm of Kelp Bay. The Bourbon Creek LTF was used from 1974 through 1977 for dumping and rafting logs (Burns, 1991). Selection of this location predates the siting criteria developed by the Alaska Timber Task Force. This site was a low-angle slide facility that did not work very well due to the tides. Log trucks were then driven along the beach and loads pushed into deeper water northeast of the facility (personal conversation with R. Smith, 1990). For this VCU, there are no alternative LTF locations to consider. At the close of operations, the old bulkhead and other facilities were completely removed, rehabilitated, and the site graded to approximate natural beach contours (Hughes and Peterson, 1990).



This LTF is immediately adjacent to the estuary and tideflats at the mouth of Bourbon Creek. Bourbon Creek drains about 10 square miles and has about 5.5 miles of anadromous fish habitat. The Alaska Department of Fish and Game have recorded escapement of 21,000 pink salmon and 4,000 chum salmon in 1986 (Starostka, 1990). The estuary at the mouth of Bourbon Creek is approximately 104 acres in size. If redeveloped, this location would be developed as a low-angle slide facility. Direct effects would range from 0.25 to 0.5 acres of fill on top of marine system habitat (Burns, 1991). The transect data notes occurrence of scattered bark debris, although the depth and extent are not quantified (Hughes and Peterson, 1990). It is assumed this area would not exceed the interim threshold of 1 acre or 10 cm deep, set by the Alaska Timber Task Force guidelines. Direct effects then would approximate 0.5 percent of the total estuary habitat near Bourbon Creek, and an even less significant portion of the total marine system habitat within VCU 298, the Project Area, and/or coastal Southeast Alaska (Burns, 1991).

Transect data show 14 years following use of the LTF, 16 different species, including dungeness crabs inhabit this location, yet the 1990 dive report concludes "This site is immediately adjacent to the tideflat at the mouth of Bourbon Creek which is a productive fish stream. The diversity and abundance of benthic invertebrates and attached algae are low" (Hughes and Peterson, 1990).

The Bourbon Creek LTF location only marginally meets requirements to be 300 feet or more away from the mouth of an anadromous fish stream. Due to its proximity to this Class I fish stream, and the associated estuary, it fails to meet guideline S6, site productivity. USFWS and NMFS have no objection to redevelopment of this site (Hughes and Peterson, 1990).

#### VCU 315: North Basin and Cosmos Cove, Kelp Bay

##### North Basin

The North Basin LTF site is in a small cove within the Basin Area of VCU 315. It falls outside of any mapped estuary; impacts would be to the marine system. Members of the dive team had previously surveyed the site in 1982 and did not resurvey the area in 1990. The physical and biological characteristics of the site are very similar to those observed at the South Basin site described below (Hughes and Peterson, 1990).

This facility would likely be developed as a low-angle slide in contrast to the beaver slide with a crane used in the 1970s (Costa, 1991). Approximately 0.5 acres of benthic habitat would be covered with rockfill to construct the slide and ramp facility. There is no record of the extent of bark debris present at this site, but it is assumed to be less than the average of approximately 2 acres (Fairs and Vaughan, 1985). The estimated total direct effects would be about 2.5 acres out of roughly 25 acres in a small cove of the North Basin area. This amounts to 10 percent of the cove. Of the 25 miles of shoreline habitat in the Basin of Kelp Bay (roughly 1,200 acres of habitat), this potential loss represents approximately 0.2 percent of available marine habitat. Since all 17 species identified along the transect were common throughout Southeast Alaska, this is considered a very minor change (Burns, 1991).

Recolonization occurred on the South Basin location 12 to 14 years after the previous use. Since the two sites are of similar physical and biological composition, it should be safe to assume recolonization would occur at this site.

This site meets all 10 siting guidelines. The USFWS and NMFS have no objection to redevelopment of this location (Hughes and Peterson, 1990).

##### South Basin

The South Basin site falls outside any estuary habitat; it would directly impact the marine system. This site was developed and used in 1976 and 1977 to transfer logs to saltwater (Burns, 1991).

Redevelopment of this site would be a low-angle slide type facility, in comparison to the beaver slide facility used in the past. Approximately 0.5 acres of benthic habitat would be covered with rockfill to construct a slide and access ramp. Current transect data does not record the extent of bark coverage at this site, but the assumption is that it does not exceed the average of approximately 2 acres. The estimated total direct effects would impact approximately 2.5 acres of marine habitat (Burns, 1991).

The 1990 transect data indicate a variety of 17 different species along a 75 meter length, compared to 5 species noted on the life zone profile done in 1976. Despite a significant amount of bark (10-20 cm deep) (Hughes and Peterson, 1990), the area *has* recolonized in 12 to 14 years, with species typical of those found in previously undeveloped LTF sites within the project area (i.e., East Saook site and North Hanus Bay site). From comparison of the two transects (1976 and 1990), it is apparent that species diversity has not been compromised. In fact, species diversity appears to have increased since 1976. In all cases, the amount of marine habitat area to be impacted would be small when compared to that occurring in the Kelp Bay Project Area.

The South Basin LTF location appears to meet 8 out of 10 of the siting guidelines. It appears not to meet guideline S5, depth of bark; the 1990 dive indicated the depth of bark was 10 cm to 20 cm, which exceeds the Alaska Timber Task Force construction and operation guidelines. Also a bald eagle nest site is located within 330' of the old LTF site.

#### Cosmos Cove

The proposed location for an LTF is near the mouth of Cosmos Cove. Members of the dive team had previously surveyed the site in 1976 and did not resurvey the area in 1990. The physical and biological characteristics of the site would not have changed since the dive in 1976. Plant density is low. Animal species are diverse but not abundant (Berg and Chalk, 1976).

Development of this site as a low-angle slide facility might cover between 0.25 and 0.5 acres of habitat with rockfill to provide for a LTF and access ramp (Costa, 1991). Additional impacts might occur from bark deposition. Bark deposition is expected to be less than the average of approximately 2.0 acres due to the steepness of the transect and the proximity of this site to the mouth of Cosmos Cove. Movement of bark by tide and wave action is expected to be greater than at sites previously developed (Burns, 1991).

There would be no loss of estuary habitat, but there would be potential reduction of 2 acres out of 345 acres of marine benthic habitat within Cosmos Cove. This amounts to roughly 0.6 percent of the marine habitat within Cosmos Cove and is consider very minor.

The proposed Cosmos Cove LTF location meets all 10 siting criteria.













